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In the Supreme Court of the United States

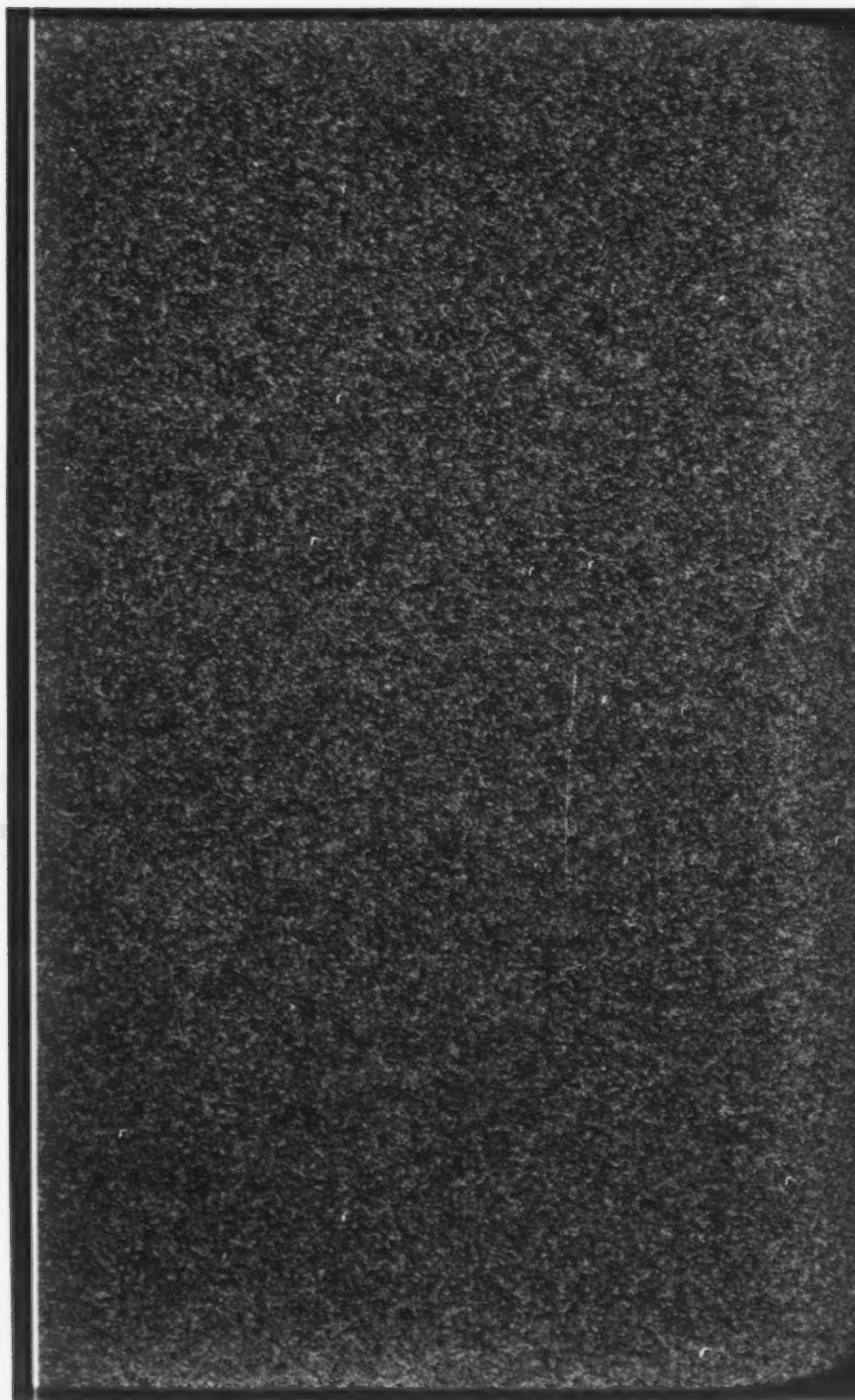
January Term, 1917

THE STATE OF MICHIGAN, COMPLAINANT,

VS.
THE STATE OF CALIFORNIA, THE CALIFORNIA POWER
IRRIGATION DISTRICT, AND THE LAND AND
POWER RESOURCES AND IRRIGATION COMPANY,

DEFENDERS FOR THE CROSS COMPLAINT.

THE UNITED STATES OF AMERICA.



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In the Supreme Court of the United States.

OCTOBER TERM, 1921.

THE STATE OF WYOMING, COM-
plainant,

v.

THE STATE OF COLORADO, THE
Greeley-Poudre Irrigation Dis-
trict, and The Laramie-Poudre
Reservoirs and Irrigation Com-
pany.

No. 3, Original.
In equity.

BRIEF FOR THE UNITED STATES.

Reargument 1922.

(Supersedes former brief.)

Introductory statement of contentions of Wyoming and Colorado and position of United States.

Wyoming seeks an injunction prohibiting a certain specific diversion and use in Colorado of a part of the waters of the Laramie River, an interstate stream. Wyoming seeks to protect rights that it claims for itself as a sovereign State and rights that it claims on account of State ownership of riparian lands, and also the individual rights of its citizens. It denies

the right of Colorado to permit the waters in question to be taken beyond the watershed. It pleads the case in such a way that it can rely upon the pure doctrine of prior appropriation or upon the riparian doctrine, if the riparian doctrine should be upheld as between individuals or as between two States, or, as we take it, upon any rule of division that this court may decide to be the proper one between States.

Colorado in its answer says that the waters of the Laramie River rise in the mountains of Colorado; denies that they have been fully appropriated; alleges certain priorities in Colorado; and claims that there is ample water for all appropriations so far made in both States. Colorado, however, goes further and asserts that as a sovereign State it not only has a right to assert and urge the claims of its citizens but that it, in its sovereign capacity, is the ultimate owner of all of the waters within its territorial borders, as one of its natural resources, and may do with them as it will.

Colorado, as we understand it, also takes the position that if two States as against each other have rights *in invitum* in streams that flow through the lands of both, there should be applied the doctrine of a reasonable and equitable sharing by the two States of the benefits in the interstate stream, and that under that doctrine the 91,000 acre-feet of water that it claims on account of the particular diversion here complained of does not constitute an

unreasonable trespass upon Wyoming, because after this diversion is made there would be left a reasonable amount of water in the river for use in Wyoming.

Wyoming, in its brief on rehearing, takes the position, if we understand that brief properly, that priority of appropriation should govern between States as it does between individuals, with the exception that between States the uses ought to be confined to the watershed.

The contention of the Government is that the principles sought to be upheld by both Colorado and Wyoming, failing as they do, to recognize the proprietary rights of the United States in the waters of innavigable streams upon lands that at one time were all the property of the United States, and seeking a solution of the problem of interstate streams without taking into account such Federal ownership or the grants of water rights made under the acts of Congress, are unsound in law and opposed to the vital interests of the United States, and, if established, might be fatal to important Government policies and result in an almost inextricable confusion of water rights in such streams. The attitude of the executive branch of the Government, is briefly that the United States has not surrendered to the States or lost to them or parted in any way with its original right to use the surplus waters (those not appropriated by others under its own laws) of innavigable streams in the Western States; that the United States is and always has been, since

the cession of the territories now comprised in those States, the owner of all the unappropriated and surplus waters; that the appropriated waters there have been granted by the United States under its own laws, using local customs and State laws as subordinate instrumentalities only; that the rights of the States, both as the actual owners of lands granted to them and as the ultimate owners of the property of their citizens, so far as they may be said to be such owners, are confined to such water rights as have been granted by the United States to them or their citizens under the laws of Congress; and that controversies such as this should be decided upon the basis of such Federal grants, and without regard to State boundaries.

The effect of these questions upon the public interests and governmental policies of the United States.

We think it sufficient here to call attention to the vast areas of land still belonging to the United States; the fact that much of it is in the arid region where land without water to irrigate it, is of little value; the Federal reclamation policy, which depends upon Federal use of both land and water and often upon Federal use of interstate streams; the Federal Indian policy, where the Government's ability to protect its Indian wards depends largely upon its ownership and control of the waters on reservations and other Indian lands; and, finally, to the fact that if the water on these

public lands be held to belong to the States the Federal Government will be at the mercy of the States and be helpless as to these policies in a very real sense, because, while under our system the States are represented in and have a powerful influence upon the Federal Government, the United States is not in any way represented in the States, and both theoretically and as a practical matter can not control or even influence their action.

The question of original ownership of innavigable waters fundamental in this controversy.

We respectfully suggest the necessity of keeping separately in mind the two questions of, first, whether the United States or the States own the right of use of the innavigable waters in the Western States, and, second, the effect of a decision of that question upon the rights of these two opposing States in the waters of an interstate stream.

It is our contention that Federal ownership controls and offers a logical and workable solution of this question of rights between the States; but even if we should be wrong as to this, we deem it clear that the United States owns the right of use of the waters in and on its public lands within the States, just as it owns the lands themselves, and that such ownership should not be thrown in doubt by any decision as to the broader question of the rights between States.

ARGUMENT.

PART ONE.

The United States retains its original plenary ownership of the right of use of innavigable waters in the Western States, except in so far as it has parted with it through acts of Congress; and this property, like the property in the public lands generally, is wholly immune from State interference or control. The State power affects only those rights which have been granted by Congress.

Upon the acquisition of the territory now comprised within the Western States, the United States became vested with all property rights in that territory except vested private rights and such Indian rights as the United States might choose to recognize. Therefore, whatever property rights exist in water in that territory, whether the water be navigable or innavigable, belonged to the United States until the creation of the States; and, furthermore, such rights are still Federal property, notwithstanding the creation of the States unless, first, they are of such a character as to go to the States upon their mere creation as such and because of the character of State sovereignty, or unless, second, they have been granted to the States or to private persons under acts of Congress.

I.

Property rights in navigable waters and their shores and beds become vested in the States on their creation, as a part of their sovereignty, but the rule is different as to nonnavigable waters and their places of occurrence. The States take no property rights in them. Such waters are not *publici juris*, and title to their use is the same as title to land.

- (1) Because of its fugitive nature, the only property rights which exist in water in its natural state are rights of use, the corpus being only susceptible of ownership while in possession. This corpus while in possession is personal property, but the right of use of the water in its natural state is a real property right of the highest dignity and value.

Failure to keep always in mind this first principle of the law of waters and to distinguish between ownership of the water itself and ownership of the right to use it has been the cause of confusion of thought in many of the cases, modern as well as ancient. The right to use water is one of the most substantial property rights known to the law and partakes in no way of the transitory character of the water itself which at any particular time makes up the stream in which the right exists. The law does not regard the water flowing in a stream (or properly, we think, any water out of possession) as being owned by those who have the right to use it, or, in fact, as being owned at all. The law does, of course, recognize an ownership in water itself when it is confined or treated as a commodity, as when, for example,

it is flowing in an irrigation ditch or is bottled for sale. It is then treated as personal property.

On the other hand, the rights which exist in connection with waters in their natural state—rights in waters flowing in a stream or in water of a pond—are rights of use.

Tyler v. Wilkinson, 4 Mason 397.

Kent, 3 Comm. (Marg.), p. 439.

Embrey v. Owen, 6 Ex. 352, 20 L. J. Ex. 212.

Hargrave v. Cook, 108 Calif. 72.

As the New York court puts it in *Smith v. Rochester*, 92 N. Y. 463, 480, "neither sovereign nor subject can have any greater than a usufructuary right therein."

Mr. Wiel, in his learned and exhaustive work on Water Rights, thus states the law in this respect:

This usufructuary right, or "water right," is the substantial right with regard to flowing waters; is the right which is almost invariably the subject matter over which contracts are made and litigation arises. It is not an ownership in the water itself; it is merely a privilege to use the water, and hence purely *incorporeal*.

Wiel, Water Rights, 3d ed., p. 755.

That this incorporeal right of use—this water right—is real property and that the title to it is of as high dignity as the title to land, is established beyond question in all jurisdictions in this country, so far as we know. There is no authority to the contrary that we are aware of and no difference in this respect between the riparian States and the so-called appropriation States.

Gardner v. Newburgh, 2 Johns. Ch. 162, 166.

Long, Irrigation, 2d ed. (1916), sec. 34, p. 70.

1 *Wiel, Water Rights*, 3d ed. (1911), sec. 711, p. 777 *et seq.*, and numerous cases cited, sec. 283, p. 298; sec. 285, p. 301;

2 *Kinney, Irrigation*, 2 ed. sec. 769, p. 1328.

Washburn, Easements, 4th ed., pp. 316, 317.

2 *Washburn, Real Property*, 6th ed., sec. 1284;

Insurance Co. v. Childs, 25 Colo, 360, 363.

Davis v. Randall, 44 Colo. 488, 492.

- (2) Because of the necessity of protecting the public interests therein (mainly navigation and fishery) property rights in navigable waters in England belonged *prima facie* to the Crown, and in this country they belong *prima facie* to the municipal sovereignties, the States. The Federal Government, though having full control (under the commerce clause) for purposes of foreign and interstate navigation, has no right of property in such waters or their shores or beds except as it derives it from the States either by grant or under operation of State law.

This doctrine is too well understood to require lengthy discussion. (See *Shively v. Bowlby*, 152 U. S. 1, 15, 48, where its origin and limitations are explained with great care.) Because of the public importance of navigation and fishery, navigable waters were *publici juris* at common law. The lands being inseparable from the waters, were necessarily affected by the public interest also. The title, *jus privatum*, was in the Crown; the dominion,

jus publicum, was also vested in the sovereign, as the representative of the nation and for the public benefit. The title to the land was thus one of the royalties or sovereign rights which passed to the original States as an incident of sovereignty when they separated from England. (*Ib.*, 46, 48; *Hardin v. Jordan*, 140 U. S. 371, 381.) Where there were no States, the United States held this particular class of property in trust for States to be created, and the trust was executed automatically as the new States came.

Not only the land but the navigable waters themselves were *publici juris*. Whatever property right there was in them, and that, as we have said above, as to all waters out of possession, was merely a right of use, was *prima facie* in the Crown. Under our system, control of interstate and foreign commerce being one of the powers delegated to the Federal Government, the rights of the States and all rights derived from them, or permitted under their laws in such waters and their shores and beds, are taken subject to this Federal power. It follows that whatever injury of State or private interests results from the use by the Federal Government, for commerce purposes, of navigable waters and their beds, or their shores up to high-water mark, there is no invasion of legal rights. The State right and the private right come after and are subordinated to this superior Federal right. It follows further, of course, that any State or private use thus interfered with does not have to be paid for. The Federal Government is

simply using that which it has a right to use and to which use all other uses are subordinated.

United States v. Chandler-Dunbar Co., 229 U. S. 53, 62.

So, also, we take it, with regard to rights of the States as against private persons, and even the Federal Government when that Government is not acting under the commerce clause. The property rights in the beds, in the shores up to high-water mark, and in the navigable waters themselves belong, *prima facie*, to the States, and it is for them to say through their legislatures and the decisions of their courts to what extent, if at all, private rights shall be granted or permitted and whether or not these rights shall be taken subject to future destruction without recompense for public State purposes (as they are for purposes of Federal commerce control) or shall be taken with the obligation of the States to pay therefor if they destroy them.

The right of the State and of the Federal Government in their respective fields extends, also, we understand, possibly in this same way, to the use of navigable waters even if that use impairs private uses of innavigable streams that flow from such navigable waters; and, furthermore, that private uses of innavigable waters which support navigable ones may be enjoined if it is shown that they interfere with navigation and perhaps if they interfere with other public uses of the waters where they are navigable.

United States v. Rio Grande Dam & Irr. Co., 174 U. S. 690.

- (3) The crux of the question we are examining is whether innavigable waters are *publici juris* like navigable waters. Ownership by the States depends upon showing that they are. Such waters are not *publici juris* and ownership of usufructuary rights therein rests upon the same basis and is of the same character as ownership of land.

Waters not navigable, include, of course, not only innavigable streams and ponds, whether surface or underground, but also diffused surface flows and waters percolating in the soil. Our question is whether these waters, of common right, so far as they are owned at all—that is, the usufructuary rights therein—are the property of the States in the sense that navigable waters are, or whether they, of common right, belong to private persons just as lands do.

In the first place, it is to be noted that it is now decided beyond any further possibility of question that the beds and shores of innavigable streams and lakes, even though they are meandered, are owned as ordinary upland is owned, and are *not owned by the States*. Title to such lands in the public land States comes from the United States and not from the States.¹

Hardin v. Shedd, 190 U. S. 508.

¹The fact that this court holds that the grantee of the upland from the United States takes to the thread of the stream or not in accordance with the State law, using such law as a rule of convenience merely, in no way weakens this statement. The title comes from the United States, and it is perfectly competent for Congress to change this rule of convenience applied to the grants of the United States if it sees fit.

It needs no argument, we think, to show that the States, by virtue of their sovereignty, also have no title to the beds and shores of small unmeandered streams and ponds or to the lands in which underground streams, lakes, or percolating waters occur.

As to the property rights in these nonnavigable waters themselves it is to be observed, first, that diffused surface waters and all underground waters were originally looked upon by the law as part and parcel of the soil and as belonging to the owner thereof. The tendency now is to recognize these waters as distinct from the soil and as being susceptible of ownership when out of possession only as to usufructuary rights therein. Furthermore, the tendency is to treat such rights not only as interlocking with the rights in the streams and lakes which the underground waters support but also (even, we think, in the pure appropriation States) as belonging to the several owners of the lands which have access to them. See Wiel's *Water Rights* (3d ed.) for an elaborate discussion of the modern law of underground waters and particularly sections 1090 and 1124. We know of no claim even that rights of this character belong to or spring from the States.

Turning to the innavigable surface streams and lakes (and keeping in mind that the principle of exclusive private right applicable to them applies with even more force, if that is possible, to such minor bodies of water as diffused surface flows and percolating and underground waters) it will be seen

that in England it was recognized at least as early as Lord Hale's time that the proprietary right in the use and flow of such waters was not in the Crown. Unlike navigable waters they did not at common law belong *prima facie* or of common right to the Sovereign, but did so belong to private persons just as land did. The rule was and is the same in our original States, and so, following the same principle upon which this court decided that navigable waters and their shores and beds go to the new States, as well as to the original ones, as it is the States which under our system are the possessors of municipal sovereignty (*Pollard v. Hagan*, 3 How. 212, 229, and *Shively v. Bowlby*, 152 U. S. 1) we see that neither the new States nor the original thirteen have any property rights in nonnavigable waters by virtue of their sovereignty, or have any different kind of power whatever over them than they have over land.

The State by virtue of its sovereignty is deemed the original grantor of all titles to real estate, and a conveyance by it of riparian rights upon nonnavigable streams vests its grantees, both mediate and remote, with all the rights which such owners can acquire against any grantor.

The riparian owners of lands adjoining fresh water, non-navigable streams, take title, "*ad usque filum aquæ*," to the thread of the stream, and thereby acquire the right as incident to such title to the usufructuary enjoyment of the undiminished and undisturbed

flow of such water. "Fresh rivers of what kind soever do of common right belong to the owners of the soil adjacent," is the expressive language of the common law and is of universal application. (*Clinton v. Myers*, 46 N. Y. 511; 7 Am. Rep. 373; *Chenango Bridge Co. v. Paige*, 83 N. Y. 178; 38 Am. Rep. 407.)

Smith v. Rochester, 92 N. Y. 463, 473.

See also:

Gardner v. Newburgh, 2 Johns. Ch. 162, 166.

Lord Hale's de Jure Maris with Judge Cowan's note to *Ex parte Jennings*, 6 Cowan, 536, 539-546.

Watuppa Reservoir Co. v. Fall River, 147 Mass. 548; 554, 555, 558, 561.

Home of Aged Women v. Comm., 202 Mass. 422, 433-434.

In re Opinions of Justices, 118 Maine 503, 506 and 507.

Wadsworth v. Smith, 11 Maine, 278, 280, 281.

Chapman v. Kimball, 9 Conn. 38, 40, 41.

Barclay R. R. & Coal Co. v. Ingham, 36 Pa. St. 194, 200, et seq.

Angell on Water Courses, 6th ed. par. 2; also par. 535.

Gould on Waters, 3rd ed. par. 46.

Cobb v. Davenport, 32 N. J. Law 369, 378-380.

Simmons v. Paterson, 60 N. J. Eq. 385, 389.

Attorney General v. Delaware & Bound Brook R. R. Co., 27 N. J. Eq. 631, 638.

Doremus v. City of Paterson, 65 N. J. Eq. 711, 712.

Contra in part:

McCarter v. Hudson County Water Co., 70 N. J. Eq. 695.¹

General expressions by some of the early writers, in which they failed to make the sharp distinction which the law now makes, and in reality always has made, between ownership of the water itself and ownership of the right to use it, and also the existence of prescriptive rights, for a time left some doubt as to whether water as such was not *publici juris* and also as to whether the riparian owner's right to divert the waters on which his land bordered was not dependent in some way upon actual appropriation.

Whatever doubt existed in that respect was put at rest in England by a series of cases of which *Mason v. Hill*, 5 Barn. & Adol. 1, decided by Lord Denman in 1833, was perhaps the most important. In this country the question had already been disposed of by Mr. Justice Story in *Tyler v. Wilkinson*,

¹ The arguments (p. 711) that if "the exercise of all rights of private ownership by all riparian owners still leaves the stream to remain as a running stream, there remains a residuum of common or public ownership that under our system rests in the State as a trustee for all the people," and that the riparian rights of private persons are narrowly limited, are, we contend, unsound and unsupported by other authorities. The rights of each riparian owner are alone limited by the equal rights of other riparian owners—not at all by rights existing in others, because there are none; the whole right of use of the stream belongs, and belongs exclusively, and completely, to the riparian owners taken together. Often the exercise of riparian rights does not leave any water in the stream at all, and when it does, the riparian owners' right to have the stream as thus left so run and not to be interfered with by anyone, the State included, who is not a riparian owner, is absolute. This case was affirmed by this court on other and broader grounds. (*Hudson County Water Co. v. McCarter*, 209 U. S. 349.)

This case as a New Jersey authority is only opposed to our position in part, because it recognizes the distinction between public and private waters, and recognizes that if the State has any proprietary rights in private waters they are subordinate, or at least only equal to private rights therein.

4, Mason 397. Since those cases, it has been settled that under the common law, both in England and in the United States, the usufructuary rights to innavigable waters belong to the owners of the land bordering on them; that the rights of such owners in the water are in no way dependent upon its use; that such waters are in no proper sense *publici juris*, as, for instance, navigable waters are; that the water right is part and parcel of the title to land itself; and that title to such usufructuary right has the same origin as the title to the land.

Baron Parke thus states the law:

The law as to flowing water is now put on its right footing by a series of cases, beginning with that of *Wright v. Howard*, * * * followed by *Mason v. Hill*, * * * and ending with that of *Wood v. Waud*, * * * and is fully settled in the American Courts: see *3 Kent's Comm.*, Lect. 52, pp. 439-445.

The right to have the stream to flow in its natural state without diminution or alteration is an incident to the property in the land through which it passes; but flowing water is *publici juris*, not in the sense that it is a *bonum vacans*, to which the first occupant may acquire an exclusive right, but that it is public and common in this sense only, that all may reasonably use it who have a right of access to it, that none can have any property in the water itself, except in the particular portion which he may choose to abstract from the stream and take into his possession, and that during the time of his possession only:

see 5 *B. & Ad.* 24. But each proprietor of the adjacent land has the right to the usufruct of the stream which flows through it.

Embrey v. Owen, 6 Ex. 352, 368; 20 L. J. Ex. 212.

In *Tyler v. Wilkinson* the question was as to the right of a mill owner to use the waters of the River Pawtucket, at a point where it is innavigable, as against riparian owners. Mr. Justice Story, as Circuit Justice, took occasion to review the law, and in the opinion he rendered briefly covered the whole subject of the origin and nature of riparian rights in nonnavigable waters. The case is the leading one on the subject. Mr. Justice Story said that he had read over all the cases which were cited at the bar, or which were to be found in Mr. Angell's work on water-courses, or which his own auxiliary researches had enabled him to reach. In part the opinion is:

The natural stream, existing by the bounty of Providence for the benefit of the land through which it flows, is an incident annexed, by operation of law, to the land itself. * * *

* * * Mere priority of appropriation of running water, without such consent or grant [of the riparian owners], confers no exclusive right. It is not like the case of mere occupancy, where the first occupant takes by force of his priority of occupancy. That supposes no ownership already existing, and no right to the use already acquired. But our law annexes to the riparian proprietors the right to the use in common, as an incident to the land; and whoever seeks to found an exclusive use,

must establish a rightful appropriation in some manner known and admitted by the law. Now, this may be either by a grant from all the proprietors, whose interest is affected by the particular appropriation, or by a long exclusive enjoyment, without interruption, which affords a just presumption of right. By our law, upon principles of public convenience, the term of twenty years of exclusive uninterrupted enjoyment has been held a conclusive presumption of a grant or right.

Tyler v. Wilkinson, 4 Mason 397, 401.

Further, as to innavigable waters being *publici juris*: The question is disposed of in the passage just cited from *Tyler v. Wilkinson*, by placing the ownership of the waters in the owners of the riparian land as "an incident annexed, by operation of law, to the land itself." It is specifically disposed of in the passage we have just quoted from *Embrey v. Owen*. Lord Denman, in *Mason v. Hill*, considered it fully and came to the conclusion that there was no foundation in the common law, or in the civil law either, so far as he could find, for the idea that such waters are open to occupancy, or that they are *publici juris*, except in the sense that no one owns the corpus of the water while it flows in its natural state.

After referring to many expressions in the law to the effect that flowing waters are *publici juris*, and the passage in Blackstone (2 Comm. p. 18): "Water is a movable, wandering thing, and must of necessity continue common by the law of nature; so that I

can only have a temporary, transient, usufructuary property therein; wherefore, if a body of water runs out of my pond into another man's, I have no right to reclaim it," Lord Denman says:

None of these dicta, when properly understood with reference to the cases in which they were cited, and the original authorities in the *Roman* law, from which the position that water is *publici juris* is deduced, ought to be considered as authorities, that the first occupier or first person who chooses to appropriate, a natural stream to a useful purpose, has a title against the owner of land below, and may deprive him of the benefit of the natural flow of water.

* * * * *

In the *Digest*, Book 43, tit. 13, in public rivers, whether navigable *or not*, it appears that everyone was forbidden to lower the water or narrow the course of the stream, or in any way to alter it, to the prejudice of those who dwelt near. Tit. 12 distinguishes between public and private rivers; and in section 4 it is said, that private rivers in no way differ from any other private place.

From these authorities, it seems that the *Roman* law considered running water, not as a *bonum vacans*, in which anyone might acquire a property; but as public or common, *in this sense only*, that all might drink it, or apply it, to the necessary purposes of supporting life; and that no one had any property in the water itself, except in that particular portion, which he might have abstracted from the stream,

and of which he had the possession; and during the time of such possession only.

We think that no other interpretation ought to be put upon the passage in *Blackstone*, and that the dicta of the learned judges above referred to, in which water is said to be *publici juris*, are not to be understood in any other than this sense; and it appears to us that there is no authority in our law, nor, as far as we know, in the *Roman* law (which, however, is no authority in ours), that the first occupant (though he may be the proprietor of the land above) has any right, by diverting the stream, to deprive the owner of the land below, of the special benefit and advantage of the natural flow of water therein.

Mason v. Hill, 5 Barnewell & Adolphus, 1, 23, 24.

Lord Cockburn in a Scotch case said:

I know nothing more rudimental in our law, than that private rivers are the property of those through whose lands they flow. This property is qualified, no doubt, in various ways, in favour of the other heritors; the object being, that each may enjoy the stream in his turn. But there is no restriction in favour of strangers. It is solely on behalf of the other owners of the water-side ground. Nor is it a mere privilege of using the stream as it passes. It is a right of property in the stream itself. Accordingly, where a river runs its entire course through the land of a single person, he, as the sole proprietor, may do with it as he pleases; as a plurality of landowners may, if all their lands adjoin it, and they all agree. He or they may extinguish it, if they can. A river is, in

this respect, exactly like a private lake surrounded by one estate, which the landowner, if not restrained by distant heritors whose streams it may feed, may drain. The water being current or still, makes no difference on the legal principle.

Ferguson v. Shirreff, 6 Dunlop, 1355, 1374 (Scot's Rev. Reps.)

- (4) **Water rights in innavigable waters being vested rights in real property, the State has the same and no greater control over them than over vested rights in land. Regulation under the police power should not be confused, as it often is, with rights of property in the State or any denial of property rights in the individual.**

Undoubtedly the States have the power to control individuals in their use of water. This right of the State may not be confined to the police power, but it can not go beyond that power and the right of eminent domain. Whatever the power is, it is limited by the provisions of the fourteenth amendment protecting vested rights. The power itself is the same as that which the State has over vested rights in lands. Water rights, as we have seen, under both the appropriation and the riparian doctrines, are vested rights in real property, which can be lost only by grant, condemnation, prescription, or abandonment.

The ways in which this power of the State is exercised, of course, will differ in accordance with the kind of property the use of which is to be affected or controlled. Thus, we have regulations limiting the use of land for the public good that would not be

at all applicable to water, and, *vice versa*, we have regulations concerning water that could not apply to land. Of this character are the administrative rules and the means of enforcing them, by which officers appointed by the courts, or provided for by statute, see to it that gates are opened and shut so that the waters will be apportioned to the various owners of rights therein, according to the decrees of the courts by which they have been defined and established. This is a clear exercise of the police power, and is so held by the courts.

Wiel, Water Rights, 3d ed., p. 196, 197:

Roberson v. People, 40 Colo. 119, 124.

Broad Run Co. v. Duel Co., 47 Colo. 573, 579.

Combs v. Farmers Co., 38 Colo. 420, 428.

- (5) **The argument based on the necessities of the arid region examined. It wrongly assumes that the riparian system is not suited to western conditions and that, therefore, the States can dispose of the Federal property in water.**

Those who would have the Federal property in non-navigable waters held to be in the States argue that the riparian system which puts the title to the use of such waters in the owners of the lands which have access to them is not suited to western conditions. We think it sufficient here to point out that the main principle of the riparian system is equality of right between the riparian owners; that they among them own the entire right of use of the stream; that any proper use under the circumstances, including, of course, irrigation, is permitted; that rights exactly like

appropriation rights can be and frequently are created by grant or condemnation of rights of the riparian owners; that the appropriation system, so called, is not so much a system of owning and using rights as it is a means of acquiring them; that it is an open question whether the correlative rights of the riparian system are not better suited to an irrigation community than the sometimes more definite and less related appropriation rights; and finally, that both classes of rights are now being created out of and logically rest, under our theory, upon the original Federal ownership of riparian rights (as will be shown hereinafter more in detail) and that the argument for State ownership is merely one that it would be better to allow the States to dispose of this class of Federal property and is as applicable to lands as to water.

(6) The fundamental principle of water law, that the corpus of water can only be the subject of ownership while in possession, and that, therefore, water itself in its natural state is owned by no one, has no effect upon the question of whether the title to the usufructuary right therein belongs to the State as a part of its sovereignty.

Many of those who argue that the origin of water rights in nonnavigable waters is in the States try to find support from this principle, arguing that because the corpus of water out of possession is not property at all, being in the so-called negative community like air or animals *ferae naturae*, the ownership of the right of use—the real property right of value—must in some way belong to the State or have its origin in some sort of State ownership. Obviously the prin-

ciple applies to all waters and, equally obviously, it neither supports nor denies State ownership of the real property usufructuary right.

II.

Water rights now vested in others derive their existence, like titles to land, from the acts of Congress. All interest in water not so granted necessarily remains in the United States. The acts grant nothing to the States, and ratification of State constitutions asserting State ownership of water does not divest the United States of its property rights therein.

- (1) The earliest acts of Congress affecting innavigable waters—They show full consciousness of power to deal with such waters on the public lands.**

Section 2476 of the Revised Statutes provides:

All navigable rivers, within the territory occupied by the public lands, shall remain and, be deemed public highways; and in all cases where the opposite banks of any streams *not navigable* belong to different persons, the *stream* and the bed thereof shall become common to both.

This section is but a continuation of early statutes on the subject (acts of May 18, 1796, 1 Stat. 468; March 3, 1803, § 17, 2 Stat. 235; Feb. 20, 1811, § 3, 2 Stat. 642; and March 3, 1811, § 12, 2 Stat. 666), and is referred to in *Railroad Co. v. Schurmeir*, 7 Wall. 272, 289; *Scott v. Lattig*, 227 U. S. 229, 242; and *Hardin v. Shedd*, 190 U. S. 508, 519.

These acts show that from the earliest times Congress has had clearly in mind the difference that

exists in the relation of the Federal Government to navigable and innavigable waters. They likewise show that Congress has been fully conscious of ownership in the United States of the innavigable waters on the public lands and of its own power to say how these waters shall be disposed of.

Those of the acts preceding R. S. 2476, which affected lands beyond the Northwest Territory (acts of Feb. 20, 1811, and Mar. 3, 1811), omitted the above clause referring to innavigable waters. Since the passage of the act of July 26, 1866, which we shall now discuss, the disposition of such waters on the public lands has been controlled by this latter act and by the local laws and customs used as its subordinate instrumentalities.

- (2) History and nature of the act of July 26, 1866, granting water and mining rights and rights of way. Purpose and effect of its adoption of local laws and customs.**
- (a) The occasion of this legislation was the extensive occupation and exploitation of the public lands in the West following the discovery of gold in California. The need was to legalize appropriations of mineral land, rights of way, and water rights already made under local customs and laws, and to provide for the future acquisition of rights of the same character in the same manner.**

The occasion and history of this legislation, with specific reference to water rights and waterways, are sufficiently shown by the opinions in—

Jennison v. Kirk, 98 U. S. 453.

Atchison v. Peterson, 20 Wall. 507.

Basey v. Gallagher, 20 Wall. 670.

Broder v. Water Co., 101 U. S. 274.

See also:

1 *Wiel on Water Rights*, 3d ed., secs. 66
et seq., 92 *et seq.*

1 *Kinney on Irrigation and Water Rights*,
2d ed., secs. 596 *et seq.*, 611 *et seq.*, 636 *et seq.*

Almost immediately upon the discovery of gold in 1848 a large population sprang up in California and Nevada and the other western Territories. Mining, milling, agriculture, and other industries quickly grew to great importance and large communities dependent upon these activities of the miners and settlers were established. The country thus so suddenly occupied was up to that time a vacant wilderness, most of which had been but lately acquired from Mexico. There was no general mining law, the lands were unsurveyed and there was no efficient statute under which the Government title to land of any character could be acquired. *Wiel, Water Rights*, 3d ed., p. 92.

The miners and settlers and the residents of the towns were alike technical trespassers on the lands of the United States. They took out the gold, set up mills for the reduction of ores, cut the timber, and engaged in agriculture. For all of these purposes the use of water was essential, and they diverted it from the streams. All this was done under orderly and firmly established codes of rules made by the miners' meetings in the various communities, the decisions of courts, and later by State and

territorial legislation. The law that thus grew up was purely a law of possessory rights made to regulate the acquisition and holding of the Government property by the miners and settlers among themselves and as against each other. It was all subject to the underlying rights and, at that time, unexercised powers of the United States as the owner of the property affected. As to mineral land, the vein or lode was recognized as the thing discovered, and the thing of value; and so the rules gave title to that rather than to so much land and allowed the following of the vein on its dip even though doing so involved going outside of the limits of the surface claim extending vertically downward. As to water, the lands from which it was taken, the lands occupied by the ditches and flumes, and the lands where it was used, whether for milling ores, washing the gold out of the gravel of the hillsides and stream beds, or for irrigation, were all until such occupancy vacant public lands.

If the miner or farmer felt free to appropriate the vein of mineral that he had discovered or the land that he wanted to farm, he felt equally free to take water for those purposes from the most convenient source. The fact that he thereby took the waters from another piece of Government land bordering on the stream made no difference under the circumstances. He could take that land, too, if he wanted it. The rules, therefore, permitted the diversion of water for any useful purpose and recognized the first appropriator's priority of right just as they recognized

the priority of the discoverer and first claimant of a vein of mineral. Throughout this period, during which these possessory rights had come to be of enormous value and had finally been held by the courts to have, between the appropriators, practically all the dignity of freeholds (*1 Wiel, Water Rights*, secs. 89 and 90, p. 97 *et seq.* and cases cited), it was realized that the underlying legal title was outstanding. The courts in the cases involving these rights were careful to refer to the paramount Government title. They usually did so by saying that the rights on which they were passing were good "except as against the United States." (*Wiel, Water Rights*, sec. 91, p. 102, and cases cited; *Atchison v. Peterson*, 20 Wall. 507, 510; *Bacey v. Gallagher*, 20 Wall. 670, 681; and *Sturr v. Beck*, 133 U. S. 541, 552).

The uppermost question in everyone's mind was what Congress would do and what effect whatever action Congress might take would have upon these rights. When Congress provided a means for the acquisition of the Government title, would the Government's grant of mineral land cut off the right of the miner whose vein ran under that land from following it and abstracting the minerals? Would a grant of land over which a ditch or flume or road ran except a right of way for the benefit of the original builder and present occupier, and would a grant of riparian land or of all the riparian land on a stream carry with it the right to stop the use of water by appropriators who had taken it, often to a great distance, and put it to nonriparian uses? To meet this situation the act of

1866 and the supplementary act of 1870 were passed. Congress had already provided adequate means for the acquisition of the Government title to agricultural lands by passing the homestead act in 1862.

(b) These acts of 1866 and 1870 examined—Their interpretation by the courts.

The relation of these two acts to water rights and waterways was precisely the same as their relation to the mineral lands. The first act, July 26, 1866 (14 Stat. 251), was styled merely "An act granting the right of way to ditch and canal owners over the public lands, and for other purposes"; but it was in reality the first general mining law of the United States. Its first section declared that "the mineral lands of the public domain" should be free and open to exploration and occupation by citizens, etc., subject to such regulations as may be prescribed by law and subject also to the local customs or rules of miners in the several mining districts, *so far as the same may not be in conflict with the laws of the United States.*

Sections 2 to 4 provided for the locating, entering, and patenting of lode claims occupied and improved "according to the local custom or rules of miners" in the mining district "so extended laterally or otherwise as to conform to the local laws, customs, and rules of miners," giving them the right to follow the vein or lode to any depth "although it may enter the land adjoining, which land adjoining shall be sold subject to this condition" (sec. 2), authorizing the surveyor general to vary the form from rec-

tangular "to suit the circumstances of the country and the local rules, laws, and customs of miners," with a proviso that no location should exceed a certain length for each locator (sec. 4).

Section 5 provided:

That as a further condition of sale, *in the absence of necessary legislation by Congress*, the local legislature of any State or Territory may provide rules for working mines involving easements, drainage, and other necessary means to their complete development; and those conditions shall be fully expressed in the patent.

Section 8:

That the right of way for the construction of highways over public lands, *not reserved for public uses*, is hereby granted.

In section 9 we find substantially and almost in words R. S. section 2339. It was as follows:

That whenever, by priority of possession, rights to the use of water for mining, agricultural, manufacturing, or other purposes, have vested and accrued, and the same are recognized and acknowledged by the local customs, laws, and the decisions of courts, the possessors and owners of such vested rights shall be maintained and protected in the same; and the right of way for the construction of ditches and canals for the purposes aforesaid is hereby acknowledged and confirmed: *Provided, however*, That whenever, after the passage of this act, any person or persons shall, in the construction of any ditch or canal, injure or damage the possession of any settler on the

public domain, the party committing such injury or damage shall be liable to the party injured for such injury or damage.

Section 10 allowed settlers on nonmineral lands, which had been excluded from survey as mineral, to acquire them under the preemption and homestead laws.

The act of July 9, 1870 (16 Stat. 217), amended the act of 1866 by adding six new sections, numbered 12 to 17, inclusive. Section 12 extended the law, with certain modifications, to placer claims. Section 13 provided that where claims had been held and worked "for a period equal to the time prescribed by the statute of limitations for mining claims of the State or Territory where the same may be situated" the right to patent should be deemed established. Sections 14 to 16 dealt with land office procedure, fees, and surveys. Finally, section 17, which has been modified into R. S. section 2340, *supra*, declared:

That none of the rights conferred by sections five, eight, and nine of the act to which this act is amendatory shall be abrogated by this act, and the same are hereby extended to all *public lands* affected by this act; and all patents granted, or preemption or homesteads allowed, shall be subject to any vested and accrued water rights, or rights to ditches and reservoirs used in connection with such water rights, *as may have been acquired under* or recognized by the ninth section of the act of which this act is amendatory.

The sections 5, 8, and 9 here referred to are the sections allowing local legislatures, in the absence of

legislation by Congress, to provide rules, "for working mines involving easements, drainage, and other necessary means to their complete development," the section granting rights of way over public lands for highways, and the section concerning water rights and ditches. R. S. 2339.

The mining features of this act were crude and were repealed and their place taken by the more detailed act of May 10, 1872 (17 Stat. 91.)

In this latter act, however, the policy adopted by the former of favoring local laws and granting mining rights in accordance therewith is adhered to. The water features of the original acts have been preserved and are still in force.

That the act of 1866 provides a means for the future acquisition of rights, water as well as mining is the settled holding of the courts. That it looks to the future as well as the past is made perfectly clear by the act of 1870 through the use of the words: "Such water rights, as may have been *acquired under* or recognized by the ninth section of the act of which this act is amendatory." Two classes of rights are under consideration and provided for: Rights existing prior to the passage of the act and rights acquired afterwards and so under the express authority of the act itself.

Jacob v. Lorenz, 98 Calif. 332, 335.

Beaver Brook v. St. Vrain, 6 Colo. App. 130, 138.

1 Wiel, Water Rights, 3d ed., sec. 99, p. 116.

Long, Irrigation, 2d ed., sec. 74, p. 134.

Without unduly extending this analysis or resorting to too extensive citations of authority, we wish to invite still further attention to certain of the salient features of this legislation and its interpretation, as it is, in our view, the foundation of all water rights in the Western States to-day and provides a solution and, we think, the only solution of the problem of interstate streams.

It will be seen that this act of 1866, while treating principally of mining, governs also water rights and rights of way for ditches, canals, and highways. These several subjects are handled together and in the same way. As to each the act gives the fundamental title to those who already had possessory rights, and provides a way by which grants of mining and water rights may be obtained in the future. Mineral lands are held open to "exploration and occupation," and he who occupies is given the right to take the other steps which lead to a grant. Water rights are *protected and preserved* to whomever has *possessed* them. Local laws, rules, and customs are used in both cases to define the right and provide the course that must be followed to acquire it. The mineralized vein is recognized by the act, as it was before by the customs of the miners, as being the thing appropriated, and so the right is given to follow it regardless of the surface limits of the claim extending vertically downward, which ordinarily define the extent of land holdings. In the field of water rights, again in accordance with local customs, the one who first "appropriates,"

even for use on nonriparian lands, is given the better right. Both as to mining and water, however, the rights granted are only such as any proprietor of the whole property involved could grant, and the rule of priority is only that which necessarily follows from successive conveyances of defined parts of a whole.

Further, it should be observed that under this act the proprietor, the United States, in a way holds its landed estate for conveyance in three classes—mineral rights, water rights, and what may be called, for convenience, ordinary land rights. It holds all of these rights for conveyance separately or together, as the case may be. Consequently, riparian rights pass or not under a patent of riparian land, generally speaking, according to whether or not the riparian doctrine or the appropriation doctrine is the rule in the locality where the land is situated. Congress has provided that it shall be otherwise in the Black Hills Forest Reserve in South Dakota (34 Stat. 233, 234).

It is well understood that the local rules, whether found in miners' customs, court decisions, or legislative acts, were adopted merely to supplement the particular provisions and fundamental conditions of the act, in order to fit it to local conditions, including local preferences, and avoid unnecessary complexity and volume in the act itself. This plan of adopting local laws or rules as the laws and rules of Congress is familiar enough. It is seen in the legislation defining crimes on reservations under exclusive jurisdiction of the General Government; in the con-

formity provisions governing the Federal courts in common-law cases; in various laws for the taking of affidavits, etc. Illustrations might be greatly multiplied.

As we have already said, the local laws, customs, etc., in respect of mining claims, retain their function under the mining law as it is to-day. They depend, of course, upon the express permission of Congress therein contained.

State statutes in reference to mining rights upon the public domain must therefore be construed in subordination to the laws of Congress, as they are more in the nature of regulations under these laws than independent legislation.

Lindley on Mines, 2d ed., sec. 249.

Quoted with approval in *Butte City Water Co. v. Baker*, 196 U. S. 125.

Their constitutionality, challenged in the case last cited, was upheld upon the ground that a delegation of authority to adopt "minor and subordinate regulations" concerning the disposition of the public domain is not a delegation of strictly legislative power. See also *Clason v. Matko*, 223 U. S. 646, 654.

It is somewhat astonishing to find the *Broder case* (101 U. S. 274) and *Jennison v. Kirk* (98 U. S. 453, 456) cited in Colorado's brief as authority for the idea that the act of 1866 recognized an independent title or power in the States. They hold exactly the reverse.

The act is a grant of rights belonging to the United States. This court in *Broder v. Water Co.*, *supra*, 101 U. S. 274, 275, construing the right of way part of the ninth section of the act says that the same is an "unequivocal grant." The Circuit Court for the District of Nevada in *Union Co. v. Ferris*, 2 Sawy. 176, 184, held:

The policy of this enactment (sec. 9, act of 1866), so far at least as it relates to agricultural districts, may be doubtful but it is the law of the land, and the courts must carry out what appears to be the intention of the legislature (Congress) as therein expressed. And that, as indicated by the act, appears to be to grant to the owner of possessory rights to the use of water under the local customs, laws, and decisions, the absolute right to such use, which the government alone could grant.

The text writers so contrive it. (See *1 Wiel, Water Rights*, 3d ed., sec. 97, p. 113; sec. 155, p. 177 *et seq.*; *Long, Irrigation*, 2d ed., sec. 74, p. 134.)

The grant is made directly to the individual appropriator. It takes effect upon his bringing himself within its terms by complying with the local laws. No patent follows as in the case of mining claims, but the title passes by virtue of the statute itself and compliance with it, as is the case with grants of rights of way.

The language of this act (act of 1866) makes the right a confirmation *in praesenti*, as to the claims included (referring to water rights), without any preliminary proceeding to obtain

a title, as in the case of a mining claim. A grant conferred by act of Congress is the highest source of title known to our laws.

Yale, Mining and Water Rights, p. 380.

The law of water rights in California and the numerous States which have followed her lead is based squarely upon the Federal title. These States are California, Kansas, Montana, North Dakota, South Dakota, Washington, Nebraska, Oregon, and possibly Oklahoma. (*1 Wiel, Water Rights*, 3d ed., p. 226.) Appropriation rights in those States are explicitly held to be derived from the United States by direct grant under this act. Riparian rights, which there exist side by side with rights by appropriation, are held by the courts to be derived from the United States under grants by it of riparian lands.

It has never been held that the right to appropriate waters on the public lands of the United States was derived directly from the State of California as the owner of innavigable streams and their beds. And since the act of Congress (1866) granting or recognizing a property in the waters actually diverted and usefully applied on the public lands of the United States, such rights have always been claimed to be deraigned by private persons under the act of Congress, from the recognition accorded by the act, or from the acquiescence of the general government in previous appropriations made with its presumed sanction and approval.

Luz v. Haggin, 69 Calif. 255, 338.

An appropriator of water under these circumstances, and while the land which he subjects to his necessary uses continues to be a part of the public domain, is a licensee of the general government; but when such a part of the public domain passes into private ownership it is burdened by the easement granted by the United States to the appropriator, who holds his (water) rights against this land under an express grant.

Smith v. Hawkins, 110 Calif. 122, 125.

The Supreme Court of Washington, referring to this act, said:

It was for the purpose of protecting the rights of appropriators of water for beneficial uses on the public lands which had vested and accrued, by virtue of local customs, laws and decisions of the courts, that the ninth section of the act of Congress of July 26, 1866, the substance of which is included in section 2339 of the Revised Statutes, was enacted. It was apparent to congress, and indeed to everyone, that neither local customs nor state laws or decisions of state courts, could vest the title to public land or water in private individuals without the sanction of the owner, viz; the United States.

Benton v. Johncox, 17 Wash. 277, 289.

In Oregon it is held that "an appropriation of water is a grant by the general government to the settler of the right to its use."

Morgan v. Shaw, 47 Oreg. 333, 337.

A water right can therefore be acquired only by the grant, express or implied, of the

owner of the land and water. The right acquired by appropriation and user of the water on the public domain is founded in grant from the United States government as the owner of the land and water; such grant has been made by Congress.

Smith v. Denniff, 24 Mont. 20, 21.

See also *Barkley v. Tieleke*, 2 Mont. 59, 64.

To the same effect see:

Cruse v. McCauley, 96 Fed. 369, 373-374.

Howell v. Johnson, 89 Fed. 556, 558.

Colorado and the other pure appropriation States, and the Territory of Alaska (Alaska, Arizona, Colorado, Idaho, New Mexico, Nevada, Utah, and Wyoming; 1 *Wiel, Water Rights*, 3d ed., p. 226), endeavor to find some basis for water rights other than the Federal title. The arguments advanced for their position we have already examined under a different head. In these States water rights are identical with appropriation rights in California and the other dual system States, and, of course, are derived, as they are there, from the United States by grants under this act, unless indeed the effectiveness of that legislation, so far as it covers water, came to an end upon the admission of the States, a proposition already herein considered and, we think, refuted.

(3) Subsequent acts of Congress contradict the theory that Federal ownership has been abdicated.

Since the act of 1866 there are a number of statutes reiterating the policy of Congress to permit the appropriation of water and leave it largely

within the control of the local regulations. These laws do not bear out the assertion that the Federal interest in nonnavigable water has been transferred to the States, and still less do they lend support to the theory advanced in Colorado's brief that Congress recognizes the States as having any ownership of or control over such water independent of a transfer from the Federal Government.

It is to be noticed that in these later declarations by Congress concerning water there is evident not only a consciousness of the power to deal with this subject without State intervention, but in some instances an actual exercise of the power itself. It is as impossible to gather from these acts that Congress intended by them to divest the United States of its interest in water as it is to obtain the impression that Congress in legislating believed it was without power in the matter. All of these acts merely adhere to the general principle of the act of 1866 as one of convenience. They favor the laws of the Territories quite as much as those of the States and in some instances they give rules independent of either. On this subject see the discussion and citations in *Kinney on Irrigation and Water Rights*, 2d ed., sec. 637.

The desert land law of March 3, 1877 (19 Stat. 377), contains this proviso:

Provided, however, That the right to the use of water by the person so conducting the same, on or to any tract of desert land of six hundred and forty acres shall depend upon bona fide prior appropriation: and such right shall not

exceed the amount of water actually appropriated, and necessarily used for the purpose of irrigation and reclamation: and all surplus water over and above such actual appropriation and use, together with the water of all, lakes, rivers and other sources of water supply upon the public lands and not navigable, shall remain and be held free for the appropriation and use of the public for irrigation, mining and manufacturing purposes subject to existing rights.

It has been suggested that this is an irrevocable "dedication" to the States, but a glance at the whole provision will convince one that it will not bear such a construction. The proviso makes no mention of the States and does not even refer to the local laws and customs. Congress itself undertakes to lay down the essential conditions of the water right which the desert entryman may acquire: It "shall not exceed the amount of water actually appropriated and necessarily used for the purpose of irrigation and reclamation," and the free right of appropriation is made coextensive with the public lands in the States and Territories named. The claimed dedication to the States is no more than a declaration that it was not intended by the act to withhold from free appropriation and use by the public (as theretofore under the act of 1866) for "irrigation, mining, and manufacturing purposes" surplus water over and above such actual appropriation and use, under the act, and over and above that already held by virtue of "existing rights." The declaration is similar to that in the

mining law of 1872 (17 Stat. 91): "All valuable mineral deposits in lands belonging to the United States, both surveyed and unsurveyed, are hereby declared to be free and open to exploration and purchase, and the lands in which they are found to occupation and purchase * * *."

In both instances Congress states its present policy and leaves itself free to change it at will. The language of the desert-land law is that of a proprietor dealing with its own property.

The case of *Hough v. Porter*, 51 Oreg. 318, is sometimes cited as sustaining the theory that this act is a dedication of water to the States. The learned and exhaustive opinion of Mr. Justice King fully sustains, and, indeed, depends throughout, upon the proposition that the United States, as the owner of the public domain, is quite competent to dispose of the waters thereon, together with the land, or to dispose of each separately, or to dispose of one and retain the other. The question examined was whether various owners who had obtained patents for riparian lands from the United States *after* the desert-land law became effective had thus acquired full riparian rights in the waters, no reservation in that regard being expressed in the patents. The court holds that such rights (except for domestic and other purposes not named in the act) were withheld from disposition with the land by reason of this declaration of the desert-land law, which the opinion in some places treats as amounting to a

reservation by the Government and in others as a dedication by the Government to "the public." To hold that there was actually a dedication and that the Government had thus at one stroke parted with all its interest in the unappropriated waters was quite unnecessary to the decision; for, obviously, if the intent of the declaration was, as it may well have been (*Williams v. Altnow*, 51 Oreg. 275; *United States v. Rio Grande Dam Co.*, 174 U. S. 690; *Gutierrez v. Land Co.*, 188 U. S. 545), to set the waters apart from the land for acquisition by appropriation only, subsequent land patents would not operate to give riparian rights, whatever might be their terms as drafted in the department.

See 1 *Kinney, Irrigation*, pp. 1091, 1095.

It is this idea of the severance of the water from the land by Congress (see *Wiel, Water Rights*, p. 222) and the withholding of it for appropriation, we take it, that was said to be plausible in the reference to *Hough v. Porter in Boquillas Cattle Co. v. Curtis*, 213 U. S. 339, 344. The reference is as follows:

The opinion that we have expressed makes it unnecessary to decide whether lands in the arid regions patented after the act of March 3, 1877, c. 107, 19 Stat. 377, are not accepted subject to the rule that priority of appropriation gives priority of right by virtue of that act construed with Rev. Stat. sec. 2339. The Supreme Court of Oregon has rendered a decision to that effect on plausible grounds.

Wholesale dedications by the Federal Government to the States are not to be implied or found in words perfectly consistent with a different intention. *United States v. Oregon & C. R. Co.*, 186 Fed. 861, 893; *Oregon Railway v. Oregonian Railway Co.*, 130 U. S. 1, 26; *Slidell v. Grandjean*, 111 U. S. 412, 437.

It should be noticed further that in this proviso Congress was careful to confine its legislation to water "*upon the public lands*" and "*not navigable*," showing that it fully realized the distinction the law makes between public and private waters and that the relation of the United States to innavigable waters is that of a proprietor.

The clause in the timber and stone act of June 3, 1878 (20 Stat. 89), as follows:

That none of the rights conferred by the act approved July twenty-sixth, eighteen hundred and sixty-six, entitled "An act granting the right of way to ditch and canal owners over the public lands, and for other purposes," shall be abrogated by this act; and all patents granted shall be subject to any vested and accrued water rights, or rights to ditches and reservoirs used in connection with such water rights, as may have been acquired under and by the provisions of said act; and such rights shall be expressly reserved in any patent issued under this act—

protects the water rights and rights of way "conferred by" the act of 1866 and declares that all patents shall be subject to such rights "acquired under and by the provisions of said act." This is a clear

recognition that the source of water rights is the United States, and is very far from giving support to the idea that such rights are the issue of a State law, or that the power to grant them has been devolved to the States. It also shows that Congress had clearly in mind that "vested and accrued" water rights in the public-land States become such by virtue of the act of 1866 with the act of 1870, some of the language of which is used in this later legislation.

The act of March 3, 1891 (26 Stat. 1095, sec. 18), granting rights of way for irrigation purposes, declares that the privilege granted shall not be construed to interfere "with the control of water for irrigation and other purposes under authority of the respective States or Territories." This means the authority to control the appropriation of water on the public lands conferred by the act of 1866. The Territories are put on the same plane with the States.

Colorado's brief on rehearing (vol. 1, p. 122) points out that the act of August 18, 1894 (28 Stat. 422), known as the Carey Act, grants to public-land States each a million acres of land or so much as the State may cause to be irrigated, reclaimed, and occupied. We do not see what bearing the fact that under the act the State is to cause the lands to be irrigated has upon the questions here. The State receives the grant upon condition that it will reclaim the land in the manner provided by the act. It is required to cause it to be irrigated, reclaimed, occupied, and not less than 20 acres of each 160-acre tract cultivated

by actual settlers "as thoroughly as is required of citizens who may enter under the said desert-land law."

The forest-reserve legislation of June 4, 1897 (30 Stat. 11, 36), contains a clause which provides that—

All waters on such reservations may be used for domestic, mining, milling, or irrigation purposes, under the laws of the State wherein such forest reservations are situated, or under the laws of the United States and the rules and regulations established thereunder.

Here the uses of water intended to be allowed are such as may be practiced consistently with the objects of the reservation and by ways authorized by Congress. This provision concerning their use is merely a modified reiteration of the consistent policy of Congress, to which we have already given some attention, to leave the matter of defining and controlling the uses of water as far as possible to the local laws.

There were persons "residing within the boundaries of such reservation" owning "property or homes" there. Others were permitted to enter for "proper and lawful purposes," including mining and milling, if they complied with the rules and regulations. *United States v. Grimaud*, 220 U. S. 506. The situation called for the use of water, and the object of the provision under discussion was to recognize the legitimacy of the use for the purposes specified,

if consistent with the laws of the State or other laws of the United States.

An act approved February 26, 1897 (29 Stat. 599), opened to use reservoir sites which had been reserved by the General Government, with the proviso that *charges* for the water should be "subject to the control and regulation of the respective States and Territories," etc.

On March 2, 1897, Congress passed a special act (29 Stat. 603) restoring to the public domain a reservoir site, theretofore reserved, and authorizing the Secretary of the Interior to sell it to whomever might buy it for the building and maintaining of a reservoir there. It contained a proviso that the act should not be construed to "deprive the State of Colorado of the control of the water in any reservoir which may be constructed on this site by any person or corporation or association, under the regulations provided by the State laws in such cases."

Under the first of these acts Congress rates the Territories and the States on a par and makes it clear that the reservoir owner will not be allowed to fix charges for the water he stores upon any claim that State and Territorial laws respecting such matters do not affect him. The second act preserves to the State of Colorado the regulative control of the water that may be stored in the reservoir. This act is quoted in Colorado's brief, volume 1, page 122, but how it can be considered a recognition of the State's inherent or acquired ownership of innavigable waters, we do not see.

The reclamation act of June 17, 1902 (32 Stat. 388), inaugurates a new policy by which the United States itself undertakes the development of its land and water resources in the arid States, although development by private enterprise or by State action (under the Carey Act, 28 Stat. 422) is not excluded. Consequently the right of appropriators under the act of 1866, through the subordinate instrumentality of the State laws, is carefully preserved. Money received from the sale of public lands is devoted to "the construction and maintenance of irrigation works for the storage, diversion, and development of waters for the reclamation of arid and semiarid lands." Apart from any consideration of whether this policy would have been adopted if Congress had believed that the waters, indispensably necessary to make these undertakings a success, belonged to the States and so were subject to withdrawal by them at any time, the act shows that the water is assumed to be subject to the use and disposition of the Government. In section 5 it is provided that—

No right to the use of water for land in private ownership shall be *sold* for a tract exceeding one hundred and sixty acres to any one landowner, and no such *sale* shall be made to any landowner unless he be an actual *bona fide* resident on such land * * * and no such right shall permanently attach until all payments therefor are made.

As rights by appropriation become vested only by beneficial use, it would seem from this that it

was not thought that the Government, by undertaking these projects, would become merely a public-ditch owner with no vested right in the water which the ditches would carry.

Section 8 is as follows:

That nothing in this act shall be construed as affecting or intended to affect or to in any way interfere with the laws of any State or Territory relating to the control, appropriation, use, or distribution of water used in irrigation, or any vested right acquired thereunder, and the Secretary of the Interior, in carrying out the provisions of this Act, shall proceed in conformity with such laws, and nothing herein shall in any way affect any right of any State or of the Federal Government or of any landowner, appropriator, or user of water in, to, or from any interstate stream or the waters thereof: *Provided*, That the right to the use of water acquired under the provisions of this Act shall be appurtenant to the land irrigated and beneficial use shall be the basis, the measure, and the limit of the right.

The first part of this section is simply a recognition of vested rights acquired under the act of 1866, and a preservation of the existing systems of water law in the States and *Territories* which have grown up under that act. (See *Gutierrez v. Albuquerque*, 188 U. S. 545, 552-554.) The direction of the Secretary of the Interior to "proceed in conformity with such laws," is meant like the conformity provisions in other federal statutes to harmonize fed-

eral activity with that which must, by compulsion of State law, go forward, if at all, under local procedure, deriving its authority from the Federal act of 1866. The concluding clause is significant: "That the right to the use of water acquired under the provisions of this act shall be appurtenant to the land irrigated, and beneficial use shall be the basis, the measure, and the limit of the right." Here again, we see that the State and Territorial laws are rated on a par and that Congress itself undertakes to create water rights and define them. A water right acquired by appropriation and beneficial use in irrigation is not usually appurtenant to the land irrigated. 1 *Wiel, Water Rights*, 3d ed., sec.550.

Colorado's brief (vol. 1, p. 119 et seq.) cites the acts that we have been discussing, with the exception of those of May 10, 1872, June 3, 1878, and June 4, 1897, as showing that Congress in them has recognized and affirmed the proposition laid down in the brief that the States have full, and as we understand the brief, the same sovereign jurisdiction and control over all waters within their borders, innavigable as well as navigable. The distinction which the law makes between these two classes of waters is not discussed there or elsewhere in the brief, and no attempt is made to point out how these Federal statutes recognize any such doctrine or are in any way inconsistent with Federal proprietary ownership of the innavigable waters.

In concluding this topic we observe that the legislation of Congress with regard to water rights all

centers upon and is intended to preserve the policy adopted in the act of 1866 of granting the right to use the unreserved proprietary waters of the United States to individuals in accordance with local systems of water-right law.

The right-of-way parts of the act of 1866 under which appropriators of ways were granted easements over the public lands without formal action or coming into contact with Federal executive officers have, for the most part, given way to a more exact system created by the acts of 1891 (26 Stat. 1095) and 1901 (31 Stat. 790), considered by this court in the late case of *Utah Power & Light Co. v. United States*, 243 U. S. 389. These later laws in general adopted a plan for granting permits or licenses under executive regulation instead of easements without regulation and substituted direct dealing between the Federal Government and the grantee for the loose indirect process permitted by the act of 1866.

Had such a plan been adopted as to water rights, or had patents for these rights been given as in the case of mining rights, is it likely that the proprietary right of the Government to the waters would ever have been questioned, or at any rate questioned at a later period or more persistently than was its title to the public lands? It is the long continuance of subordinate State control, under a system that involves no recourse to the source of power, that has caused the fact that such control is subordinate, sometimes to be lost sight of.

(4) Ratification of State constitutions asserting State ownership of waters does not divest the United States of its property rights therein.

The provisions of the constitution of Colorado may be taken as fairly representative of those contained in the constitutions of the other States having provisions asserting ownership of water, and are as follows:

The water of every natural stream, not heretofore appropriated, within the State of Colorado, is hereby declared to be the property of the public, and the same is dedicated to the use of the people of the State, subject to appropriation as hereinafter provided.

Colo. Constitution, Art. XVI, sec. 5.

The right to divert the unappropriated waters of any natural stream to beneficial uses shall never be denied. Priority of appropriation shall give the better right as between those using the water for the same purpose; but when the waters of any natural stream are not sufficient for the service of all those desiring the use of the same, those using the water for domestic purposes shall have the preference over those claiming for any other purpose, and those using the water for agricultural purposes shall have preference over those using the same for manufacturing purposes.

Colo. Constitution, Art. XVI, sec. 6.

The contention is that it was the duty of Congress when creating the States to see to it that their constitutions asserted no ownership in, and assumed no control over, property of the United States which it was not the intention of Congress to convey to the

States; and that if those constitutions when finally adopted contained provisions of that character they must be taken as effective congressional grants of such property to the States.

Considering the purpose to be accomplished and the part that Congress plays in creating a State, this seems an astonishing position to take. What Congress does is to bring into being a new State sovereignty to take a place with the others already existing. The purpose is the creation of a State and nothing more. If it grants property to the State at the same time, as it generally does, it does so specifically by an act of Congress.

The constitution may be supervised and reviewed by Congress or it may not. That of Colorado was not and that of Oklahoma was.

Mr. Justice Lurton, in speaking for this court of the Oklahoma constitution, said:

A constitution thus supervised by Congress would, after all, be a constitution of a State, and, as such, subject to alteration and amendment by the State after admission. Its force would be that of a state constitution and not that of an act of Congress.

Coyle v. Smith, 221 U. S. 559, 568.

See also:

Ex parte Webb, 225 U. S. 663, 690.

Wilcox v. McConnell, 13 Peters, 498, 516.

Mr. Kinney, in his work on Irrigation, finds this argument for State ownership of water wholly without merit.

1 *Kinney, Irrigation*, 2 ed., sec. 388, p. 660.

(5) The question whether the United States or the States own the water of innavigable streams in the West has never been directly passed upon by this court. The cases support Federal ownership.

As we have already shown, the California law of waters is based squarely upon the Federal title and the act of 1866; and the California cases, in this respect, are followed in the other States that have not adopted the pure appropriation system, while in those States which have adopted that system the courts for the most part deny the Federal title and seek to find the origin of all titles to water in the State. The question has never been directly passed upon by this court; however, in a number of cases this court has incidentally considered it and expressed the view that the United States has a title and right to the waters on its public lands wholly independent of State permission. In no case that we have found has this court given countenance to the contrary theory.

None of these cases lends support to the theory that the States have any inherent power to dispose of or affect the innavigable waters flowing on the public lands and all of them accord perfectly with the theory of water law, based upon the Federal title, that we have been maintaining. The dictum in the Rio Grande Dam case, placing limitations upon the States as to such waters, stands not only unmodified, but is supported by the later decisions. The textbook writers who discuss the subject at all, so far as we have found, are unanimous in their support

of the federal title. *Weil, Water Rights*, 3 ed., pp. 183, 184, 223; 2 *Kinney, Irrigation*, 2 ed., sec. 640; *Long, Irrigation*, sec. 74, p. 134.

The cases are:

Atchison v. Peterson, 20 Wall. 507.

Basey v. Gallagher, 20 Wall. 670.

Sturr v. Beck, 133 U. S. 541.

United States v. Rio Grande Dam and Irrigation Co., 174 U. S. 690, 704.

Gutierrez v. Albuquerque, etc., Co., 188 U. S. 545.

Kansas v. Colorado, 206 U. S. 46.

Winters v. United States, 207 U. S. 564.

Boquillas Land & Cattle Co. v. Curtis, 213 U. S. 339.

Kansas v. Colorado, *supra*, decided in 1907, is not an authority to the contrary of the position taken in *Rio Grande Dam & Irrigation Co. v. U. S.* The Government there sought to maintain its intervention upon the broad theory that because the policies of Colorado and Kansas, respecting the use of the waters of the Arkansas, were conflicting, and because neither State was competent to regulate that use outside of her own borders, the entire power of regulation must be held to reside in the United States. Such a Federal power was said to be essential to insure the reclamation of arid lands—not lands of the United States alone, but arid lands generally. This was claimed as an inherent power of sovereignty—a sort of national police power springing from the needs of the situation. The opinion, of course, concedes the power of the United States to control the dispo-

sition of its public domain. Its interest in the use of water upon its own lands or the advantageous reclamation, use, and disposition of its own lands, or its general proprietary interest in nonnavigable waters was not in issue.

(6) Upholding of State ownership would disintegrate the law and destroy Federal interests without working any practical good to the States.

The western States can show no grant of innavigable waters to them, so they can not be held to own or control such waters without putting the whole law in that field on a new foundation.

As we have already shown, there is no basis in the common law for the proposition that the sovereign owns innavigable waters or the usufructuary right to them because of the nature of water or otherwise; also, local conditions can not work a transfer of ownership from the United States to certain of the States without a distinction being made, which the law has never made, between the right to the use of water and between other things which are the subjects of ownership, or without giving to the arid States a power and field of jurisdiction that is denied to other States—without, in fact, working that very inequality between the States in order to avoid which rights in navigable waters were held by this court to be vested in these same new States.

Water law in the dual-system States is incapable of explanation or of being put upon any logical

basis if common-law principles and their sure result, Federal ownership, are to be abandoned in favor of any principles that can support ownership or power in the States. Furthermore, as we have seen, the appropriation system in Colorado and the States that follow her lead rests as a matter of history and with logical completeness upon the same principles that that system rests upon in California, where it originated.

It certainly is an astonishing proposition that the owner of most of the land in which these waters are or over which they flow lost title to the right to use them at some period, near or remote, upon the mere admission of the States. The common law considered these estates in land and water as one. They could be separated, as we have seen; but normally and originally they belonged together. These particular lands were practically useless without the water, and certainly the water was useless without the land. Furthermore, access to the water could not be obtained without the landowner's permission. To say that under these circumstances the owner of all the land had no interest in the water, or that it would be desirable that one sovereign should own the land as a proprietor and that another sovereign should own the use of the water as a royalty or otherwise would be a *reductio ad absurdum*.

Besides these objections based upon the law, there is this very important practical objection to

State ownership of innavigable water—that while working no practical good to the States, because the liberality of Congress has fully taken care of appropriations within them according to their own laws, it would put the Federal Government, as the proprietor of vast areas of land, at the mercy of the States, and so would disastrously affect its great reclamation, Indian, and other Government policies.

PART TWO.

The controversy, as one involving an interstate stream, should be decided upon the basis of the Federal ownership of lands and waters, thereby confining the ownership of the States, as ultimate proprietors, to such water rights as have been or may be granted to the respective States for themselves or for use in connection with the lands within their borders.

- (1) In practice the Federal Government disregards State lines in the use and control of waters for its own purposes, and State lines have been equally disregarded in the grant and acquisition and use of private water rights in the Western States, so a division of water between the States making State lines controlling would interfere with the Federal use of water and seriously modify or destroy existing vested rights. These rights being grants from the paramount Federal sovereignty should be upheld as against the claim that the States which enjoy a quasi sovereignty only should be treated in this respect as independent nations and the waters be divided between them on that basis and in disregard of the rights of the Federal Government and of the Federal grants.

Under our theory of the Federal Government's original proprietary right to the use of innavigable waters occurring in and flowing over its lands, and that all private rights to such waters have been derived by grant from the Federal Government,

we contend that there is no room at all for a division of the waters of interstate streams between States so long as such waters are Federal property or even if they have been granted, except in strict recognition of such grants.

Many of the Government's reclamation projects, in fact, by far the greater number, we understand, depend largely, if not wholly, upon the waters of interstate streams. These projects have been undertaken and the settlers under them have gone ahead upon the assumption that the water rights of the projects would not be subject to readjustment because of the existence of any overlying paramount power that could be invoked by the States. Similarly private water rights, whether acquired as riparian rights or by appropriation, have been acquired and, as we contend, granted by the Federal Government in the same way. Many of the most valuable of these grants were made while the States were Territories, and some of them doubtless before the Territories even took the boundaries that were finally adopted when they became States.

We have here on the one hand the Federal Government, the paramount sovereign, owning and granting property rights of the highest dignity and value in a subject-matter, that necessarily reaches over and disregards State lines. The grant of a right, whether riparian or appropriation in character, in the lower State, immediately below the upper State's line, to be of any real value must carry with it a right in the flow of the stream that

reaches up into and limits uses in the higher State. The rights so granted are protected by the Constitution of the United States and, by Federal law, are specifically required to be excepted from all patents made thereafter by the Government itself. (16 Stat. 217, sec. 17.) Opposing this situation, we have, on the other hand, the idea that because the States in which these grants are made enjoy many attributes of sovereignty, these Federal grants should be limited. The contention of the States is that the Federal Government can not decide, even though all of the lands and the use of the water are its property, and even though it is itself a sovereign, the extent of the rights it grants in this property, which necessarily must transcend State lines, but that their extent is subject to be determined by a future adjudication between the States alone. Their contention is, further, that that adjudication should be made upon the theory that the States are in this regard independent nations.

We are, of course, familiar with the concept that the sovereign of a political State has a title and right of ownership to all of the property within that State which is behind and superior to the rights of its citizens, and that necessarily that full sovereign, in a controversy with another sovereign, may speak the last word with regard to all of the property in the State. It follows from this, of course, that the citizen's title in such case stands or falls with that of his sovereign. If his sovereign has to give up property

rights to the other sovereign, the citizen, of course, must suffer.

This principle we contend should not apply with regard to our Commonwealths. They are the ultimate owners of all within their borders only in a limited sense. Another and superior sovereignty, the United States, sees to it, through constitutional provisions of its own, that property and personal rights of the citizens of those Commonwealths, who are also its own citizens, are duly protected. It seems to us that under these circumstances these rights of individuals must be considered in any controversy between our States, and that the rights granted by the Federal Government to its citizens and the citizens of the Commonwealths should stand as against any theory of what a proper division would be if they did not exist. Our Commonwealths are not sufficiently sovereign to require any such readjustments as would be required if they were fully sovereign, or to demand any such overriding of the power of Congress to make final disposition of the Federal property.

State equality would not be impaired by a solution upholding these Federal grants. What is required by the principle of States equality is an equality of powers, not an equality of subjects upon which to exercise them. The Federal Government may exhaust its mines or forests within a State or otherwise dispose of its property there as it will, regardless of whether or not such disposition limits the field within which that particular State might otherwise exercise powers which it undoubtedly enjoys

equally with all of the other States. To confine the States' jurisdiction, as we contend it should be confined, to rights in nonnavigable waters which have been granted by the Federal Government directly to those States or for use on lands within their borders would, under these principles, in no way limit the jurisdiction of the States anywhere within their boundaries over all the proper subjects of State power and control.

(2) The contentions of the States are not in accord with fundamental ideas of either State sovereignty or water law and are impracticable.

Both of the States in this suit disregard the peculiar situation created by the fact that under our system titles to property often do not spring from the organs of municipal sovereignty, the States. They disregard the further fact already referred to by us that our States are not truly sovereign and that property rights in them are protected by another and higher sovereignty, the United States. It is for these reasons that the attempt in this suit to ignore the Federal title to the innavigable waters which have not yet been granted and the effect of Federal origin and Federal protection of property rights upon such of them as have been granted, leads to false reasoning and wrong conclusions.

Taking the attitude just referred to, both States are seeking a solution based upon the idea that the States are full sovereigns and that they face each other with regard to this stream just as they would if they were not Commonwealths of our Union but were independent members of the family of nations.

Colorado's first contention, that she may use the waters within her boundaries wholly regardless of the effect upon the flow of the stream in the lower State, would be untenable even if the two States were in truth, full sovereigns. If they were such sovereigns, a use of that character would be so repugnant to natural ideas of justice as to warrant the lower State to resort to war to put a stop to it. (See *Missouri v. Illinois*, 200 U. S. 496.) The proper division of the waters or the benefits of the stream is a justiciable matter to be determined by this court and was so held in *Kansas v. Colorado*, 206 U. S. 46.

The second contention of Colorado we regard as also untenable. It is that a division of the waters of the stream should be made between the two States upon some theory of an equitable enjoyment by each State of the benefits of the common resource. This doubtless would be the correct general principle to go on, however difficult of application it might be, if the States really were, and so were to be treated, as independent nations. State sovereignty is not, as we have said, of that high character, however, and that fact and the existence of the Federal origin and Federal protection of titles to water rights preclude such a solution absolutely and as a matter of law. The consideration just stated, we contend, settles the matter. However, we wish to point out that even if that were not the case it would be a very difficult thing to do and would be opposed to our fundamental ideas of water law to make an apportionment of this or any other interstate stream upon such

a basis as Colorado suggests. On the one hand, it is hard to see how existing private rights could be adequately protected unless the division between the States were made, as we contend it should be, exclusively upon the basis of the Federal origin of such rights. And on the other hand it is equally hard to see upon what theory of water law the general principles of the riparian doctrine could be disregarded if the two States were to be taken as in truth facing each other as full sovereigns and, therefore, as true, ultimate landowners of all riparian lands and of other things capable of ownership within their boundaries.

It is to be noted that Colorado in her briefs carefully refrains from saying just how the division should be made under her own theory or upon what principles except the very vague one of general fairness. She seems to contend strenuously for a proprietary ownership in herself of innavigable waters within her borders and for the upholding of the appropriation system there; but as against her sister States, into whose lands the waters falling on her mountains ultimately flow, she desires to have full riparian rights, so that she can develop her own lands in the future, slow or fast as she pleases, and retain a large ownership in the water in any event.

To our minds the upholding of such a doctrine would go far to lock up the resources of the West; and here we think the existence of the Federal title and the fact that the States are not full, independent sovereignties offer both a logical and a practical solution.



Wyoming contends that a division should be made between the States in accordance with the priority of appropriations made by their respective citizens, but with the modification that the use of the water should be confined to the lands within the watershed.

We are clear that making the watershed a controlling factor would be unwise. Often indeed it is essential for the proper development of the State that it be possible to take water far beyond any such confines. This is often necessary for city water supplies, to name only one of many important uses, and we see no reason why any such limitation should be placed upon the use by a State of any part of a stream that might be awarded to it.

Wyoming's argument for a division on the basis of prior appropriation disregarding the State line would not be in accord with our fundamental ideas of water law if we were to ignore the Federal title and its effect and were to adhere to the theory that the States in this regard are to be treated as full independent sovereignties. As such sovereignties how could their situation as riparian owners be ignored and they be confined in their rights in the stream to water that they had already appropriated, and, as to the surplus waters, be given merely a right to engage in a race to make further appropriations?

The fact that their laws recognize priority of appropriation as governing the rights of their citizens can have no bearing. These laws in neither instance were made to govern the State itself as



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JAMES D. MAHER

In the Supreme Court of the United States

OCTOBER TERM, 1916

IN EQUITY

THE STATE OF WYOMING, Complainant,

vs.

**THE STATE OF COLORADO, The Greeley-Poudre
Irrigation District, and the Laramie-Poudre
Reservoirs and Irrigation Company,**

Defendants

**Supplemental Brief on Behalf
of the Plaintiff**

DOUGLAS A. PRESTON,

**Attorney General of the State of
Wyoming, and Solicitor
and of Counsel for the Plaintiff**

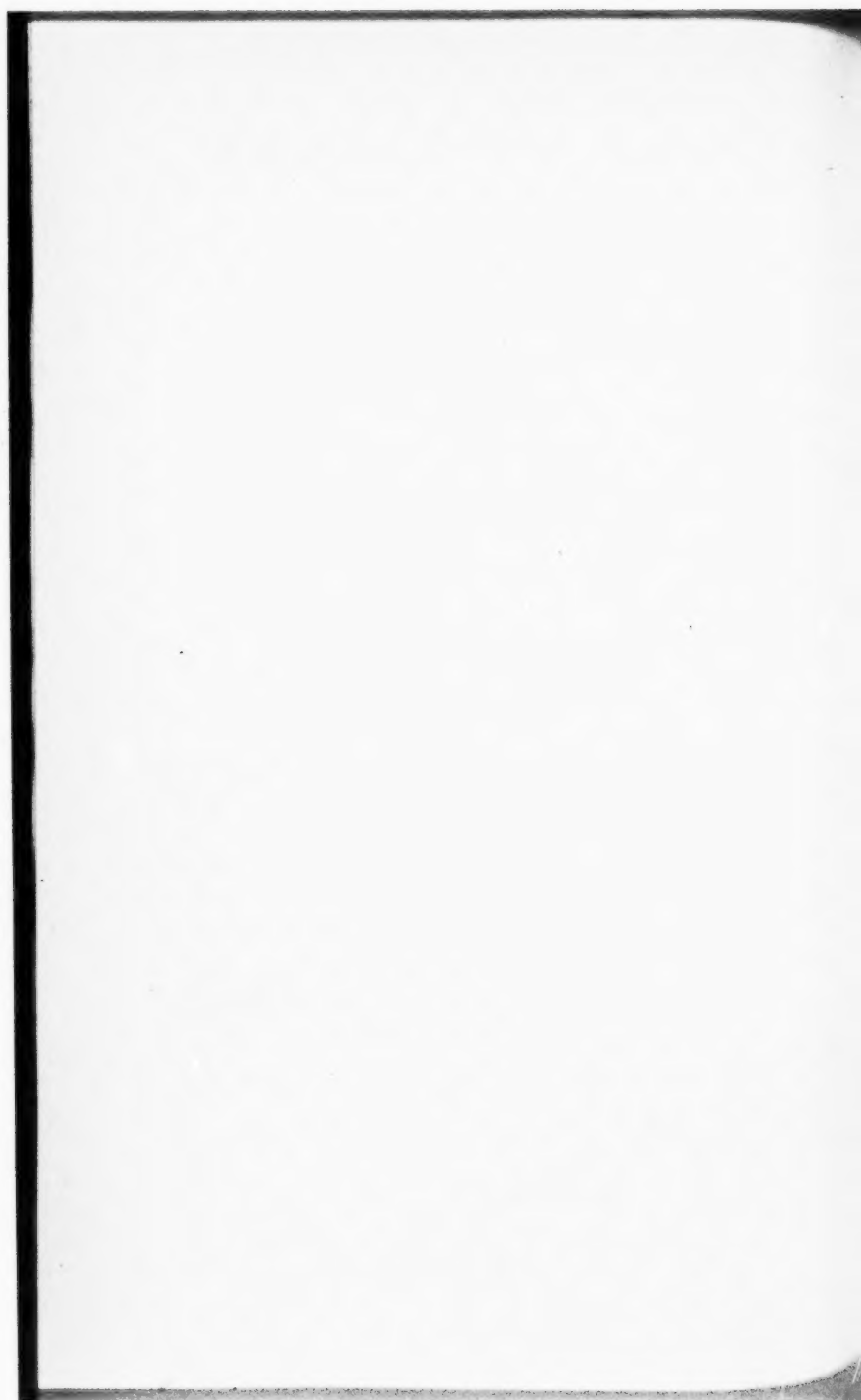
JOHN D. CLARK,

N. E. CORTHELL,

HERBERT V. LACEY,

JOHN W. LACEY,

Of Counsel



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IN EQUITY

Supplemental Brief on Behalf of the Plaintiff

DOUGLAS A. PRESTON,

*Attorney General of the State of Wyoming and
Solicitor and of Counsel for the Plaintiff*

JOHN D. CLARK,

NELLIS E. CORTHELL,

HERBERT V. LACEY,

JOHN W. LACEY,

Of Counsel



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IN EQUITY

Supplemental Brief on Behalf of the Plaintiff

Statement of the Case

This is a suit by the State of Wyoming against the State of Colorado and two individual defendants incorporated under the laws of that State, seeking to prevent the diversion of certain waters from the Laramie River. This river has its source in Colorado and flows into Wyoming.

The contention of the plaintiff is that she owns lands in the valley of the Laramie River watered by that stream, and also that she and her citizens since

1865 and prior to any right to any of the waters of the stream in the defendants, or either of them, appropriated and used in the irrigation of large amounts of land and in the development and maintenance of large communities the waters in controversy; and that the defendants, without right as against the rights of the plaintiff and her citizens, is threatening to take a large amount of the waters of the stream so as to deprive the plaintiff and her citizens of the use thereof, to the great and irreparable injury and damage of the plaintiff and her citizens.

The contention of Colorado is three-fold:

A. That there is an abundance of unappropriated water in the stream, and that she will take only from the surplus.

B. That the State of Colorado is entitled to an equitable division of the water, and that the amount she intends to take is not more than her equitable share.

C. That the waters at the place where they are to be taken are found within the boundaries of Colorado, and that she as a sovereign is entitled to take any waters found within her borders without regard to any rights of any other State or person.

The facts contended for in the first proposition are disputed by the plaintiff; likewise the facts and the principle of law as contended for in the second, and the principle of law contended for in the third.

The case has already been argued before this Court, and we will content ourselves with this brief statement of the controversy here, and will elaborate the facts more at length in the discussion of the evi-

dence in that portion of the brief devoted to the argument.

Throughout this brief all references to pages upon which evidence appears are to the marginal page numbers.

Brief of the Argument

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I. AMOUNT OF WATER TO BE TAKEN BY COLORADO

By the bill of complaint it is charged that the defendants intend to divert 100,000 acre feet of water

per annum from the Laramie River, and throughout the case the defendants have admitted that they intend to take all of the water they can divert (p. 2120), but this amount is claimed to be less than 100,000 acre feet. On page 144 of Vol. I of the original brief for defendants, it is said: "Colorado in this suit insists upon her claim to divert 91,000 acre feet of water of this interstate stream." It is probably true, however, that this amount is derived from the testimony of the State Engineer of Colorado, Mr. Field, who concluded from his examination of stream flow records (p. 3424) that the total average annual flow near the Colorado tunnel is 77,000 acre feet; that about 74 per cent. of this amount can be diverted into the tunnel, making an average annual diversion of 56,000 acre feet; that this is exclusive of the amount that can be secured through extending the West Side Collection Ditch to McIntyre Creek, an extension which is not only possible, but is a part of the "suggested plan". Mr. Field concluded that this extension would divert an average 15,000 acre feet per annum, or 75 per cent. of the water in McIntyre Creek (p. 3425) making a total average diversion through the tunnel of 71,000 acre feet. In addition to this amount, Colorado, its witness says, is already diverting an average of 20,000 acre feet per year from the Laramie River into the Poudre, being 18,000 acre feet through the Skyline Ditch and 2,000 acre feet through the Divide or Wilson Supply Ditch (p. 3426). The Skyline Ditch was commenced in 1891 (p. 2205), and the Divide Ditch was constructed several years later, defendants' Exhibit 24 (p. 3398), in which this ditch is designated "Sand Creek Ditch", showing that water was carried through it in 1902. This makes the total of 91,000 acre feet.

It must be borne in mind, however, that these amounts are estimated for years in which there is an average runoff, and as stated by Mr. Field (p. 3401), the amount diverted yearly will be more constant than the flow of the stream, there being a higher percentage diverted in years of small flow than in years of large flow, on account of the pressure for water. This is well illustrated by the diversion through the Skyline Ditch, as shown on defendants' Exhibit 124 (p. 3398), from which we take the following table:

Table Showing Discharge in Acre Feet of the Poudre River, Skyline Ditch and Divide Ditch, April to October, and Percentage of Poudre Discharge as Compared to Thirty-Year Average

YEAR	Net Poudre Discharge	Percentage of Average	Skyline Ditch Discharge	Divide Ditch Discharge
1899	388,591	131	17,699	.....
1900	474,573	160	18,657	.....
1901	339,155	114	23,805	.....
1902	151,636	51	22,124	1,925
1903	345,150	116	26,114	1,713
1904	315,437	106	23,434	6,810
1905	361,652	122	13,291	0
1906	279,974	94	16,693	5,004
1907	386,224	130	15,024	5,400
1908	252,843	85	17,958	2,092
1909	486,002	163	12,725	0
1910	157,514	53	16,435	783
1911	205,611	69	19,085	4,418
1912	297,722	100	20,986	2,157
1913	217,959	73	14,639	0

It is shown here that in 1901, when the flow of the Poudre River reached 114 per cent. of its average, the amount diverted through the Skyline was 23,805

acre feet, and in the following year when the flow of the Poudre was only 51 per cent., the amount diverted through the Skyline was 22,124 acre feet. In 1907 the Poudre flow was 130 per cent., and the Skyline diversion only 15,024 acre feet. In the following year the Poudre flow was 85 per cent., and the Skyline diversion rose to 17,958 acre feet. In 1909, when the Poudre flow was 163 per cent., the Skyline diversion was 12,725 acre feet, and in the following year when the flow of the Poudre was only 53 per cent., the Skyline took 16,435 acre feet; and in 1911, another year of small flow, equaling only 69 per cent. of the average, there was diverted through the Skyline 19,085 acre feet, within 1,000 acre feet of the amount taken in 1912, which had a flow almost fifty per cent. greater. The diversion through the Skyline canal is estimated by Mr. Field (p. 3422) as being $75\frac{1}{2}$ per cent. of the total amount of water susceptible of diversion through that ditch. In a general way the Divide Ditch, which on Exhibit 124 is designated as the Sand Creek Ditch, exemplifies the same practice, although this is a smaller ditch and the water it furnishes to the Poudre Valley is of less importance to the system with which it is connected than is the water carried through the Skyline Ditch, and it appears that there were three years in which no water at all was diverted through this ditch. The amounts diverted, however, run as high as 6,810 acre feet in 1904, which was a year said to be but little above the average in stream flow, and was 4,418 acre feet in 1911, a year of only 69 per cent. of the average flow. This exhibit demonstrates two things, first, that Mr. Field's estimate of 18,000 acre feet for the Skyline and 2,000 acre feet for the Divide as being the average annual diversion, is very much too

low, and second, that if the year 1912 was "normal" both on the Poudre and on the Laramie, as contended by him, and the Skyline Ditch diverted 20,986 acre feet in 1912 and 19,085 acre feet in 1911, which was very much below an average year, then the amount diverted through these mountain ditches in years of small flow must be practically 100 per cent. of the amount of water available for diversion, a conclusion in exact accord with Mr. Field's statement (p. 3401) to which reference has already been made, that in years of scarcity of water the percentage diverted from the foreign watershed would be proportionately greater than in years of plenty.

Our conclusion with respect to the amount of water that Colorado will divert from the Laramie River into the watershed of the Poudre, is:

1. That under conditions existing prior to 1913, the amount would in average years exceed 91,000 acre feet, as contended by Colorado, by at least 4,000 acre feet, the estimate for both the Skyline and the Divide ditches being 2,000 acre feet too low, as shown by their records set forth in defendants' Exhibit No. 124.

2. That the constantly increasing pressure for water in the Poudre Valley will certainly cause added efforts to divert water from the Laramie both earlier and later in the season, and with less loss, as by concreting portions where leakage is excessive, as is to be done in the Poudre Valley (p. 1869), so that even in average years the amount diverted will be much more than 75 per cent. of the amount available, and will increase the amount in average years from 95,000 acre feet to a much larger amount, the extent of the

increase being, of course, wholly problematical, but the fact of the increase certain.

3. That in years of low flow and of greatest need of lower Wyoming appropriators, the proportion of the amount diverted by Colorado will rise to practically 100 per cent. of the flow of the stream at the diversion works.

II. AREA OF LAND RECLAIMED IN WYOMING

We divide this discussion under several heads:

(a) Area of Wyoming land already irrigated under ditches having a conceded priority over Colorado diversion.

(b) Area not yet actually irrigated, for which rights are claimed under ditches themselves of conceded priority.

(c) Area lying under ditches of disputed priority; with which is correlated a discussion of the evidence upon which Colorado bases its claim of priority of August, 1902, for the Greeley-Poudre system.

(a) The evidence offered by Wyoming upon this point consists almost wholly of the testimony of a great many witnesses, each of whom testified as to the amount of land irrigated from a ditch owned by him or with which he was quite familiar. We conceive that these witnesses are better able to testify with certainty than could third persons or engineers not

personally familiar with the use of the water, and who in making plane table surveys necessarily depended upon the conclusion of a rodman as to the limits of the irrigated area, because a very large part of the acreage, particularly upon the Laramie Plains, was utilized as pasture and hay was not cut therefrom, and it is obviously difficult for an outsider to ascertain definitely the limits of the land upon which water is applied in this manner. Not only does the conflict between the witnesses for Wyoming and the engineers who made a survey for Colorado illustrate this fact, but the same thing is shown in the testimony with respect to the area of the land irrigated in the Laramie Valley in Colorado. J. A. Whiting, a civil engineer employed by Wyoming, surveyed the Colorado ditches in 1910, there being six in his party, and ten days being devoted to the work (p. 1266). The total acreage of all land lying between the ditches and the river was found to be 1856.64 acres, of which 567.6 acres consisted of land largely covered by willows (p. 1270.) The engineer for the Greeley-Poudre Irrigation District, which had purchased many of these Laramie Valley ranches, (p. 3460), John R. Wortham, who was familiar with the ditches and the irrigation therefrom, made a survey also, and testified that the total acreage was 4250 acres (p. 3457). Both Mr. Wortham and Mr. Whiting are competent, honest engineers, and we have no reason to doubt the good faith of either, but the one was not familiar with the ditches and the use of water therefrom; the other was. For the same reason the evidence of the Wyoming witnesses with respect to irrigation in Wyoming shows a much larger acreage than does the testimony of the Colorado engineers, although the disparity is not nearly so great as in the

case of the Colorado land. We have summarized the testimony of the Wyoming witnesses as follows:

1. Ditches from Main River

Riverside Ditch No. 1 and the King Ditch had been constructed prior to 1880; Riverside Ditch No. 2 was constructed in 1884 by enlarging the Gramm Ditch, constructed in 1882 or 1883; the Caldwell & Gardinier Ditch was built prior to 1886, and from that time the four ditches irrigated upon the Riverside and King ranches about 13,500 acres. (pp. 278-9, 324-5.)

Murphy Ditch, built in 1877 or 1878, irrigates about 80 acres, (pp. 409-10).

Last Chance and Fisher Ditches, built in 1884, and the O. Sodergreen Ditch, built in 1878 and enlarged in 1884, irrigate 800 acres, (pp. 410-11).

Mansfield's O. N. Ditch constructed in 1884 or 1885 irrigates about 640 acres, (p. 411).

Hammond North and South Ditches, built in 1885 or 1886, irrigate 160 acres, (p. 412).

Smith No. 1 and No. 2 Ditches, built in the '80s, irrigate 80 acres, (p. 412).

Lund's North Line Ditch, built in the '80s, irrigates about 320 acres, (p. 412).

Burg's Ditch, constructed in the '80s, irrigates more than 200 acres, (p. 413).

Central Ditch irrigates 50 acres, (p. 413).

Sodergreen No. 1 and No. 2 Ditches were constructed in the '80s and irrigate between 300 and 400 acres, (p. 414).

O. G. Ditch was built about 1887 and irrigates 640 acres, (p. 414).

Sodergreen South Ditch was built in 1887 and irrigates between 40 acres and 50 acres, (p. 415).

Island Ditch built before 1880 and irrigates 80 acres, (p. 416).

Heidrick Ditch constructed in the '80s and irrigates 160 acres, (p. 416).

Parker Ditch constructed about 1896 and irrigates 1650 acres, (pp. 416, 417).

Popp and Pahlow extended the Last Chance Ditch in the early '90s and irrigated therefrom 1,120 acres, (pp. 417-8.)

Sodergreen High Line Ditch was surveyed in 1907 and completed about 1910 and irrigates from 4,000 to 5,000 acres, (pp. 418-9); as the priority of this ditch is not conceded, being subsequent to 1902, this acreage is omitted from the recapitulation at the end of this review of the evidence.

Bush & Holliday Ditch was built several years prior to 1898, and irrigates 890 or 900 acres, (pp. 499-501); this land was irrigated prior to 1888, (p. 528).

Sutherland irrigated 50 or 60 acres by means of an overflow dam constructed in 1890, (p. 529).

The Bilderback Ditch was constructed prior to 1878, (p. 531), and was developed into the Dowlin Ditch, irrigating on the Heart Ranch 3,100 or 3,200 acres, (pp. 531, 534, 555).

Walcott Ditch constructed on Heart Ranch, across river from Dowlin Ditch, prior to 1888, and irrigated additional 550 or 600 acres, (pp. 535-6).

A number of small ditches constructed below Laramie City in the '70s and '80s, near ranch of witness Fitch, irrigated in Township 16, Range 73, 500 acres;

in Township 17, Range 73, 75 acres; and in Township 17, Range 74, 3,000 acres, (pp. 569-573).

Oasis Ditch was constructed in 1884, (p. 589); in 1910 an engineer determined by survey that the area lying under ditch with recognized water right was 11,246 acres, (p. 608); he did not survey actually irrigated acreage, but estimated that it was probably 75 per cent. of the total, (p. 618); while a witness who had charge of lands under the ditch in 1900 or 1901 testified whole area was irrigated excepting high spots averaging about 50 acres to the section, (p. 957).

Cooper Lake Ditch irrigates 750 acres, (p. 619-620).

LeRoy Grant Ditch irrigates 887 acres, (p. 730); the ditch was originally known as the Hutton Pick-up Ditch and was built in the '80s, (p. 718).

Fischer Ditch was constructed in 1887, (p. 750), and reconstructed in 1888, (p. 750); the surveyor who surveyed it in 1906 or 1907 testified it irrigates about 3,000 acres, (pp. 731-2).

The Pioneer Canal Company was organized in 1878, and the canal first constructed in 1878 and 1879, and enlarged in 1885, (p. 916). The company owning the works acts only as a carrier, the lands being owned by persons buying annual water rights, (p. 884). In 1913, the year the testimony was taken, the plaintiff's engineer made a reconnaissance of the area under the canal and ascertained that the acreage irrigated in that year was 11,486 acres, (p. 824), this being corrected later to 11,556 acres, (p. 844), and he testified that his examination showed that in former years a greater acreage had been irrigated, (p. 825), being at least 2,000 acres more, (p. 828). The superintendent of the canal, Titus, testified that ten or twelve years

before 1913 he had made a map of the irrigated area, which was then 17,000 or 18,000 acres, and that this amount of land was irrigated each year up until 1912, when between 19,000 and 20,000 acres was irrigated, this being the largest amount ever irrigated under the canal, (pp. 863-4), which covers an irrigable acreage of between 35,000 and 50,000 acres, (p. 865).

Biddick Ditch was built in 1897 and irrigates 578 acres, (p. 903-4).

All of the above ditches divert water from the principal stream above its junction with the Little Laramie River; the following divert water from the Laramie River below the mouth of the Little Laramie River:

Boughton Ditch, constructed in 1884, irrigates more than 7,000 acres, (pp. 748-9).

The Gillespie-Dunn and Dunn Ditches were built in 1887 or 1888; the Ione Lake Ditch in 1890; they irrigate respectively 140 acres, 190 acres and 620 acres, (pp. 704-5).

The Wyoming Development Company's system, supplying water to the Wheatland colony, was commenced in 1883 and prior to 1885 there had been expended on Canal No. 1 alone the sum of \$142,210.94, (p. 1291). The expenditures prior to 1902 were as follows: (pp. 1291-2):

Canal No. 1	\$143,601.76
Canal No. 2	34,819.11
Canal No. 3	44,355.28
Reservoir No. 2	115,541.56
Tunnel	138,311.66
Diversion Dam	1,835.27
Laterals	4,178.42
General expenditures (not including advertising and commissions on sales)	156,075.17
Total	\$638,718.23

In 1894, when settlers were first secured, 2,000 acres were irrigated, and in 1900 this had grown to 10,000 acres, (p. 70); in 1913, when the evidence was taken in this case, the area irrigated in the original project was 33,544 acres, (p. 168). This does not include the area irrigated in the Bordeaux project, the priority of which is contested, being in that year 1,004 acres, (p. 168).

Dodge Ditch, built in 1894, irrigates 120 acres, the Dodge South Side Ditch, built in 1906, irrigates 93 acres, (p. 66); the latter is not included in the recapitulation, its priority being disputed.

Cramer Ditch, built about 1900, irrigates 220 acres, (p. 696-7)

McGill Ditch, completed in 1882, irrigates 705 acres, (p. 1294).

Cross T. Ditch No. 2, completed in 1884, irrigates 468 acres, (p. 12).

Scissors Ditch was constructed before 1880 and irrigates more than 250 acres, (p. 120).

Laramie River Ditch No. 1 was in use in 1881, and irrigates 800 acres, (p. 121).

Cross T. Ditch No. 1 was built in 1884 or 1885 and irrigates 90 to 100 acres, (p. 122).

The A. N. Spencer Ditches were built about 1890 and irrigate between 700 and 800 acres, (p. 123, p. 144).

Phillips Ditch, built 1890, irrigates 30 or 40 acres, (p. 125).

Uva Ditch, built in 1890, irrigates 200 acres, (p. 125).

Yates Ditch, built prior to 1900, irrigates 100 acres, (p. 132).

McCormick and Bright Ditch, built in '90s, irrigates between 300 and 400 acres, (p. 135).

The witness Whitney testified that a number of other small ditches were constructed along the lower portion of the Laramie River in the '90s, including the Gallagher, Reitz, Thompson, Ryan and Combination ditches, (pp. 122, 123, 124, 136, 143), but the acreages irrigated are not shown.

2. Ditches from Tributaries

The area irrigated from Sand Creek and its tributaries under ditches constructed prior to 1902 (p. 902), is 5,898 acres, (pp. 898-9).

The engineer of the plaintiff determined the irrigated acreage upon the Little Laramie River and its tributaries below the mountains (the mountain ditches not being included) by a reconnaissance made in October, 1913, as follows: Little Laramie River, 45,899 acres; Seven Mile Creek, 1,527 acres; Four Mile Creek,

a tributary of Seven Mile Creek, 918 acres; total, 48,344, (pp. 982-3). The lands found to be irrigated are listed in the schedule commencing p. 995. He found lands which had been irrigated in previous years, but not in 1913. (p. 984.) A subsequent witness testified that there had been but little change in irrigated acreage in 20 years, and only two small ditches, with total of 240 acres under them, constructed since 1903.

No other evidence was offered by Wyoming with respect to the irrigation from the tributaries of the Laramie. By Exhibits H, N, and O, adjudicating these streams, hereinafter referred to in detail, the large number of small appropriations from these tributaries is shown, but we consider proof of exact area irrigated upon those tributaries unimportant in this case, for certainly Colorado cannot force us to abandon to that State the stream from which our major appropriations are made merely because in some other source we might conceivably find water to irrigate the lands we have reclaimed by use of the water of the Laramie; another reason for omitting reference to these other tributaries is that with the exception of one or two very small creeks near Laramie City, these remaining tributaries lie below the Laramie Plains and the Wheatland No. 2 Reservoir and could not be used to supply any of the Wyoming appropriations particularly in question.

Recapitulation of Irrigated Area

Name of Ditch	Acres	
Riverside No. 1, Riverside No. 2, King, and Caldwell & Gardinier	13,500	
Murphy	80	
Last Chance, Fisher, O. Sodergreen	800	
O. N.	640	
Hammond North and South	160	
Smith No. 1 and No. 2	80	
Lund North Line	320	
Burg, more than	200	
Central	50	
Sodergreen No. 1 and No. 2 between	300	and 400
O. G.	640	
Sodergreen South, between	40	and 50
Island	80	
Heidrick	160	
Parker	1,650	
Popp & Pahlow extension of Last Chance	1,120	
Sodergreen High Line, commenced in 1907, not included, more than 4,000		
Bush & Holliday	800	or 900
Sutherland	50	or 60
Bilderback-Dowlin	3,100	or 3,200
Walcott	550	or 600
Township 16, Range 73	500	
Township 17, Range 73	75	
Township 17, Range 74	3,000	
Oasis, 75 per cent. of 11,246 acres ...	7,430	
Cooper Lake	750	
LeRoy Grant	887	
Fischer	3,000	
Pioneer Canal, in 1913	11,556*	
Biddick	578	
Total above Little Laramie River ..	52,186	

* Much more in former years.

Name of Ditch	Acres	
Boughton, more than	7,000	
Gillespie-Dunn	140	
Dunn	190	
Ione Lake	620	
Wyoming Development Co. system ..	33,544	
Bordeaux, not included, 1,004		
Dodge	120	
Dodge South Side, not included, 93		
Cramer	220	
McGill	705	
Cross T. No. 2	468	
Scissors	250	
Laramie River No. 1	800	
Cross T. No. 1	90	or 100
A. N. Spencer	700	or 800
Phillips	30	or 40
Uva	200	
Yates	100	
McCornick & Bright	300	or 400
Gallagher, Reitz, Thompson, Ryan, and Combination, acreage not stated.		

Total below Little Laramie River ... 45,669

Total irrigated from Laramie River 97,855 acres

Total irrigated from Little Laramie River 48,344 acres

Total irrigated from Sand Creek 5,898 acres

(b) In addition to the land already irrigated under prior rights in Wyoming, there is a very large acreage lying under the old ditches and intended to be irrigated therefrom, upon which water has not yet been applied. Colorado's State Engineer, Mr. Field, said (p. 3637), "As ascertained from the plane table survey, the amount of land actually irrigated was less than 50 per cent. of the amount lying under the old ditches." M. R. Johnston, formerly manager of

the Wheatland irrigation system, which is below the Laramie Plains area, testified (p. 69) that the Wheatland system was commenced in 1883, and the area to be reclaimed consists of about 60,000 acres, of which about one-half has been irrigated. This is a colonization project, and the extension of the use of the water depended upon the rapidity of the settlement, which in turn is of course wholly dependent upon economic principles and cannot be hastened by the efforts either of the State or of the management.

The plaintiff offered in evidence copies of three decrees adjudicating rights to the use of water of the Laramie River and its tributaries in Wyoming, not for the purpose of proving thereby that so much water had been appropriated, because the decrees could not have that effect against the State of Colorado or its citizens who were not parties to the proceedings, but for the purpose of confirming the competent evidence, which had been introduced with respect to practically all of the ditches covered by the decrees, and to show that the State of Wyoming had itself recognized the validity of these claims. The decrees likewise show the amount of land which Wyoming citizens have intended to reclaim under ditches of conceded priority, and the right to increase the area irrigated under these old priorities until the entire area for the reclamation of which the ditch was constructed has been reclaimed, is recognized by these decrees.

The three decrees are Exhibits H, O, and N, and have been printed and bound together and filed with the original exhibits, their length making it inadvisable to reproduce them in the printed record. Exhibit N is a decree of the district court of Laramie County, Wyoming, of December 27, 1912, and covers the

Laramie River and all of its tributaries excepting Soldier Creek, Little Laramie River, and Chugwater Creek, which had been adjudicated previously in separate proceedings. The proceedings in which the decree was entered were commenced before the Board of Control of Wyoming, a quasi-judicial body having by constitutional provision jurisdiction to adjudicate all water rights, with provision for an appeal to the district courts from its decrees. The proceedings were commenced before 1900, and accordingly all of the priorities are of a date earlier than 1900, with the exception of one which has a priority dated 1900; the decree itself provides (p. 47 of Exhibit N) that it shall not affect any ditch constructed under permit the date of completion of which did not expire prior to May 25, 1900.

Exhibit O is a decree of the Board of Control dated March 26, 1892, adjudicating the appropriations from Soldier Creek, a small tributary of the Laramie River near Laramie City. Exhibit H is a decree of the Board of Control dated May 5, 1892, adjudicating appropriations from the Little Laramie River, the one large tributary of the Laramie River upon the Laramie Plains, and entering the Laramie River about fifteen miles below Laramie City, and below the much larger part of the area irrigated upon the Laramie Plains.

We did not offer in evidence the decree of the Board of Control adjudicating Chugwater Creek, this creek being omitted from consideration because it enters the Laramie River but a few miles above its mouth, lies below the Wheatland district, has a large amount of land irrigated from it, and is not presented by any witness as a possible means of supply for any of the lands irrigated from the Laramie River, (pp. 4378-9).

In no better way can we show the gradual character of the development of the territory tributary to the Laramie River, the increase of the irrigated area and the great number of small appropriators upon whom individually and each for himself would fall the burden of constructing expensive reservoirs if Colorado should divert water from this river, than by tabulating the appropriations as adjudicated by the Laramie River decree. Although the decree does not so divide them, we have separated the ditches into groups, the first those lying above the mouth of the Little Laramie River, and the second those lying below the junction of the Laramie and Little Laramie Rivers.

Abstract of Exhibit N, Laramie River Adjudication

1. Ditches Above Junction with Little Laramie River

Date of Priority	Name of Ditch	Acres
1868	Dowlin	3,428
1877	Abbott	1,245
1877	Murphy	80
1879	Pioneer	49,030
1881	King	3,233
1881	Abbott & Coleman	415
1883	Riverside No. 1	1,501
1883	J. B.	120
1883	Caldwell & Gardinier	1,553

Carried forward 60,605

	<i>Brought forward</i>	60,605
1883	Bamforth	280
1883	Riverside No. 2	1,589
1884	Sodergreen	366
1884	O. M.	528
1884	Riverside No. 2, additional	2,479
1884	Pioneer, 2d appropriation	
1885	Hammond South	45
1885	Smith No. 1	68
1885	Smith No. 2	30
1885	North Lund	150
1885	Burg	106
1885	Caldwell & Gardinier, additional	925
1886	Central	45
1886	Sodergreen No. 1	281
1886	King, additional	306
1886	Oasis	1,305
1886	O. G.	617
1887	Fischer	121
1887	Sodergreen South	16
1887	South	50
1887	Island	25
1887	Sodergreen No. 2	55
1887	Hammond North	107
1887	Fischer	79
1888	James & Norton	205
1888	South Lund	165
1889	Heidrick	58
1890	Oasis, additional	4,520
1892	Haley & Hoge	2,008
1892	Parker	382
1895	Fischer, additional	2,220
1895	Bush & Holliday	500
1895	Parker Enlargement	1,180
1896	Last Chance	400
1896	Cole	253
1897	Last Chance, additional	675
1897	Biddick	140

Total above Little Laramie River .. 82,884

2. Ditches Below Junction with Little Laramie River

Date of Priority	Name of Ditch	Acres
1878	Scissors	236
1879	Laramie No. 1	920
1881	Cross T. No. 2	155
1882	McGill No. 1	705
1883	Wyo. Development Co. System	58,813
1883	Bilderback	1,117
1883	Sipple	100
1884	Cooper Lake	770
1884	Boughton	7,882
1884	Cross T. No. 1	90
1887	Dunn	247
1888	Gallagher	54
1888	Spencer No. 2	236
1888	Spencer No. 1	237
1889	Dunn & Gillespie	140
1890	Ione	620
1891	Bright & Sutherland	543
1891	Combination	172
1891	Ft. Laramie	433
1894	Cramer	196
1896	Reitz No. 1	67
1896	Reitz No. 2	57
1896	Bettleyoun & Fleet	90
1896	Thompson Enlargement	92
1896	Ryan	170
1897	Ritterling	59
1897	Phillips	30
1898	Uva	240
1899	Van Ortwick	50

Total below Little Laramie River . . 73,521

3. Ditches from Minor Tributaries of Laramie River

Name of Creek	Acres
Five Mile Creek	3,073
Willow Creek	1,760
Willow Creek Tributaries	250
Sand Creek	4,871
Sand Creek Tributaries	415
Fox Creek	377
Harney Creek	965
Harney Creek tributaries	270
Shell Creek and tributaries	790
North Laramie River	2,324
North Laramie River tributaries	1,288
Slate Creek and tributaries	193
McFarlane Creek and tributaries	183
Sybill Creek	3,654
Sybill Creek tributaries	2,439
Other small streams	1,018
Total	23,870

The appropriations with priority before 1892 from Soldier Creek as adjudicated by the decree Exhibit O, total 1180 acres.

The appropriations earlier than 1892 in priority from the Little Laramie River, as adjudicated by the decree Exhibit H, number 130 and have a total of 48,356 acres. Of this great number of appropriations, one is for 4,120 acres, one for 3,200 acres, and no others for more than 2,000 acres.

Summary of Adjudicated Rights

From Laramie River prior to 1900.....	156,405	acres
From minor tributaries of Laramie River prior to 1900	23,870	acres
From Little Laramie River prior to 1892..	48,356	acres
From Soldier Creek prior to 1892.....	1,180	acres

Total adjudicated rights exclusive of Chugwater Creek.....	229,811	acres
Deduct duplications where same land ap- pears under two ditches (p. 3353)	6,339	acres

Net area 223,472 acres

The process of reclamation of arid land is shown by history, but we find in the record abundant testimony about the practice in Colorado, which differs in no way from that in any other irrigated country. The Colorado expert, Professor Carpenter, describes this universal irrigation practice as applied in the Poudre Valley as follows (p. 2314-15):

“Water flowing in Cache la Poudre River as it passes out of mountains and begins to enter canals now serves much larger area than formerly. In 1870 it served ten thousand acres; in 1880 probably not more than three or four times that quantity; in 1890, about 130,000 acres. It now serves 260,000 acres. The same stream flow serves the latter acreage that served the first acreage given. The water stored in reservoirs is merely part of the stream flow, so that the peak part of the flow has since decreased, is stored in reservoirs as has also the waste at other times. The acreage served has been very much increased. For all purposes it is substantially the same water now as it was twenty or thirty years ago, with these changes in methods of use, matters of econ-

omy and conserving water. The struggle over water and pinching caused by shortage is much less than it was twenty-five years ago. * *

In case of each of these ditches the land, especially near headgate, became more or less saturated. The ground water came near enough to surface so that it needed very little irrigation, and perhaps needed drainage instead of irrigation. That land, if not abandoned, was in situation where it would not need irrigation. They then transferred right to use that water to other lands lower down, and so ditch did not run any more water but it brought under cultivation more lands towards lower end of ditch. Did not increase its demand on stream in making extended reclamation. This extension was by means of extension of drain ditch or by formation of lateral companies, and laterals which might run out 5, 8, or 10 miles and were in effect an extension of main ditch. By this means this land has been brought under cultivation, and has had the effect of largely increasing the total acreage. These were mutual ditches, so that owners living near head who owned ditch stock have nearly all divested themselves of that stock."

And in this process, which is so largely dependent upon the raising of the water plane, the users of the Poudre Valley have stored in the subsoil in the course of thirty years, approximately 3,000,000 acre feet of water (p. 2312). Wyoming, by the adjudication decrees above discussed, has recognized the general principle of irrigation practice and has protected its citizens in their right to divert water for the irrigation of the area under ditch and to extend the use over this land as the one parcel becomes saturated and requires less water. Exactly the same practice is recognized in Colorado under a somewhat different form, for there

an appropriator is given the right to take all of the water he has sought to appropriate, irrespective of the area to be irrigated, and as he finds it possible to irrigate this area with a small amount of water he can sell a portion of the water to another, and it is contended that this very practice is largely responsible for the extensive development of the Poudre Valley (p. 2316).

C. THE CONTESTED PRIORITIES

As we understand the order directing re-argument, the Court desires a presentation of the facts upon the increase, if any, in the extent of the use of water in Colorado and Wyoming between the time when the Tunnel Project was commenced and the time when this suit was commenced.

Elsewhere in this brief we have undertaken to show by references to the evidence that the combined use of water in both States, at least as early as 1901, and thenceforth, extended to the entire flow of the stream and its tributaries in each of the thirteen years—1901-1913 inclusive—except in 1909 and possibly a small amount released from the Wyoming Development Company's No. 2 Reservoir as a precautionary measure in 1907. No more definite data are available as the quantities were not measured during that period, except in the years 1912 and 1913. The data of the measurements in these two years are set forth in final form in plaintiff's Exhibits T-3, T-4, T-5, T-6, T-7 and T-8 inclusive (4283-4296).

Particulars as to the ditches and lands in connection with which water was used within the Valley in

Colorado are set forth in the Testimony of J. A. Whiting (1266-1275) and John R. Wortham (3454-3463), and in the Exhibits offered by these witnesses in connection with their testimony. These Exhibits were not printed in the Abstract but are found in connection with the transcript. It is not suggested that any of this irrigation began after 1900, and we understand that all of the irrigation in the Laramie Valley in Colorado passes unquestioned as being of old and established priorities. In addition to this irrigation, the diversions of the Skyline Ditch and the Divide or Wilson Supply Ditch out of the valley for irrigation elsewhere in Colorado, occurred prior to 1902. These diversions are elsewhere discussed and are not involved in this controversy.

Elsewhere in this brief we have brought together the data afforded by the evidence relating to the ditches taken out and the lands irrigated prior to 1900 or at latest 1902. As shown in that connection it so happens that the Decree of the District Court in Wyoming in the proceedings to determine priorities of right to the use of the water of the Big Laramie River and its tributaries (excepting the Little Laramie and Soldier Creek, which had been previously adjudicated), were based upon evidence taken in 1902 and prior thereto, so that the Decree had relation to the appropriations and use of water as they existed in and prior to that year.

A copy of this decree was put in evidence as Exhibit N (1042) and a copy of the Little Laramie Decree, made in 1892, was introduced as Exhibit H (1318). These Exhibits are not printed in the abstract but accompany the transcript and have been abstracted in this brief.

The plaintiff's proof in this case is not rested upon

these Decrees, which, of course, are not conclusive as against the defendants herein, who were not parties to the proceedings. The plaintiff has shown in substance the same facts by the independent original testimony of witnesses produced in this cause, reference to which testimony has heretofore been made.

The question of additional use is doubtless suggested by the construction which has taken place since the works above mentioned were put in use, and more specifically since the Tunnel Project of the defendants was commenced, and the period to which this discussion is directed extends from that date to May 29, 1911, when suit was brought. In the answer of the defendant State it is alleged (printed p. 30) that on August 25, 1902, the Laramie-Poudre Reservoir & Irrigation Company and its predecessors in title made an appropriation of 1235 second feet of water from the Laramie River, and that there was then abundant water in the river to satisfy all prior appropriations in Colorado and Wyoming. In the Joint Answer of the defendants, Laramie-Poudre Reservoir & Irrigation Company and Greeley-Poudre Irrigation District (printed pages 38-39), it is alleged that on August 25, 1902, the District and its predecessors in title "by commencement of the construction initiated its rights to the diversion for the purpose of irrigation and domestic use through the Tunnel mentioned in the Bill of Complaint to 1235 second feet of water" etc.

Further (printed page 44) it is alleged "that since such initiation, the defendants and their predecessors in title have diligently, by continuous work and expenditure on the construction of an extensive irrigation system, preserved the rights so initiated. Defendants aver that in perfecting the rights so initiated, the de-

fendants and their predecessors in title conceived an extensive irrigation system, consisting of collection ditches, tunnel reservoirs, and other reservoirs on the upper reaches of the Laramie River, a tunnel over $2\frac{1}{2}$ miles in length, now entirely completed, and extending from the Laramie River through the mountain range, constituting the eastern boundary of the watershed of said stream", etc.

The defendants, therefore, by their pleadings and in the subsequent conduct of the case have selected August 25, 1902, as the significant date of commencement of their work. On the other hand, it is the understanding of the plaintiff (and we think shown by the evidence) that the Tunnel Project was not in fact commenced until very late in the year 1909, and a considerable time after the commencement of the principal works in Wyoming over which the defendants claim priority.

The period under discussion then may be considered in the view of the defendants to extend from August 25, 1902 to May 29, 1911, while in the view of the plaintiffs it extends only from about December 1, 1909 to May 29, 1911.

It is to be remembered that the evidence shows that the defendants' work is still incomplete. The time when it will be possible to divert and apply the water to the beneficial use intended cannot be certainly known until that is an accomplished fact. When this has been done the question will arise whether the defendants under the doctrine of "relation" can claim priority of appropriation prior to the time of application to beneficial use, and if so, for how remote a period back of that time. Under the rules universally laid down by the Courts dealing with rights of priority

by appropriation the right of the defendants must date from the time of applying the water to the beneficial use intended unless it is shown that by diligent prosecution of its work the defendants are in a position to claim rights by relation as of the date of the commencement of such work. This burden the defendants have undertaken to sustain from August 25, 1902.

2 Kinney on Irrigation, 1266-1299.

1 Wiel on Water Rights, 423-434.

Another fact which enters into the discussion of this question has relation to the character of the competitive works undertaken in Wyoming during the period to be discussed. These works (taking the period to extend from 1902 to 1911) include only the following works of any significance:

1. The Bordeaux and Sybille units of the Wyoming Development Company's system.
2. The Lake Hattie and Stewart Canal units of the Laramie Water Company.
3. The King Ditch and Hutton Lake unit of the Denver-Laramie Realty Company.
4. The James Lake unit of the James Lake Irrigation Company.
5. The Sodergreen High Line Ditch.

Other than these works it appears that the constructions in Wyoming since 1902 are insignificant. A review of the evidence shows only a few small ditches constructed during the period.

The Dodge South Side Ditch built in 1906 irrigates ninety-three acres (Marginal p. 669). The Dunn Ex-

tension Ditch, started in 1906-1908 and completed in 1910, irrigates 125 acres (pp. 705, 706).

Edward Hicks testified that he thinks only two small ditches have been taken out of the Little Laramie River since 1888, one by Chris Anderson, irrigating 160 acres, and one by Dwight Smith, irrigating about 80 acres (p. 1104).

John W. Ernest testified that the additional irrigation on the Little Laramie River (aside from the James Lake system) since 1898 would amount to about 1500 to 1600 acres (p. 1118).

E. D. Titus testified that he knew of no ditches of size or importance taking water from the Little Laramie constructed within the last fifteen years, except Lake Hattie and Lake James Ditches, and that there were not many small ditches (pp. 1138-1152).

M. C. Brown testified that the irrigation development on the Laramie Plains took place mostly between 1870 and 1900, and that the increase since 1900 has not been large (1181).

R. J. Cowper testified that all ditches of Soldier Creek were made between 1870 and 1889 (1203).

Asmus Franzen testified that all the land under the Boughton Ditch was irrigated as early as 1889 (p. 1207).

James Hardman enumerated the ditches on Sand Creek with the dates of construction showing that the latest ditch was constructed in 1901. (pp. 889-902).

Numerous other witnesses testified concerning particular ditches and a careful examination of their testimony does not disclose reference to any other ditches constructed since 1900, except the five larger works enumerated above.

These enumerated works with possibly one excep-

tion are simply extensions or additions to works which were in existence many years prior to 1902.

1. The Bordeaux and Sybille Units of the Wyoming Development Company's System

The Wyoming Development Company's system (see map attached to defendants' Answer) takes water from the Laramie River at a single point in Sec. 36, Tp. 23, R. 72, whence it is conveyed by tunnel into Blue Grass Creek, running down that creek and Sybille Creek, into which it flows, to a point in Sec. 13, Tp. 22, R. 70, whence it is taken out in Canal No. 1, extending in a general easterly direction. The Sybille unit of the Wyoming Development Company taps this flow in Blue Grass Creek in Sec. 21, Tp. 22, R. 70, and extends in a general northerly direction, irrigating lands between the ditch and Sybille Creek. The Bordeaux unit is an extension of Canal No. 1 from a point in Sec. 23, Tp. 23, R. 68 southeasterly to the vicinity of Chugwater Creek. Neither of these units makes any new diversion from the Laramie River or its tributaries. Both of them take water appropriated through the tunnel from the Laramie River, and by means of Reservoir No. 2, both of which were completed prior to 1902.

M. R. Johnston describes this system as constructed prior to 1888 (pp. 15, 25, 21-22), stating that only about 30,000 acres out of 60,000 acre tract originally contemplated had as yet been brought under irrigation (p. 69), and that in 1911 only about 450 acres were irrigated under the Bordeaux unit which was surveyed in February 1904 and on which construction began in

June, 1907, and was completed in June 1908, the surveys for the Sybille unit being commenced in August, 1907, and construction in 1910 (pp. 108, 109).

J. A. Elliott testified that the Bordeaux tract consisted of 10,000 acres, of which 1004 acres was irrigated in 1912, consuming 3060 acre feet, and that the Sybille Tract consisted of about 30,000 acres (pp. 168, 170).

2. The Lake Hattie System

The Lake Hattie construction consists of the Lake Hattie Inlet Ditch, taking water from the Big Laramie River, the Stewart Ditch, taking water immediately from the Little Laramie River, the Lake Hattie Reservoir, the Outlet Canal, and its branches, the North and South Canals. On the map attached to the Answer the locations of these several units are shown. Water is diverted from the Big Laramie River through the enlarged Pioneer Canal (dating from 1879), in Sec. 36, Tp. 14, R. 77, and carried for a distance of about three miles through the Pioneer and thence from a point in Sec. 21, Tp. 14, R. 76, the Lake Hattie Supply (Inlet) Canal conveys the water into the Lake Hattie Reservoir. The Outlet Canal and its branches extend from the eastern end of the Lake Hattie Reservoir in a general easterly direction as indicated on the map. The Stewart Canal takes water from the Little Laramie River in Sec. 1, Tp. 15, R. 77 and conveys it southerly to the Lake Hattie Reservoir.

In substance this diversion from the Big Laramie River was in contemplation as early as 1884, and was outlined by surveys substantially following the line of the constructed works and made in 1884, 1885, 1886,

1887, 1889, 1890, 1891, 1892, 1893, 1897, 1898, 1906, 1907, 1908 as shown by the testimony of Charles Belamy (pp. 751, 769, 770), S. C. Downey (pp. 915-918, 927-940), H. N. Roach (pp. 966-968, 970, 972-975), R. D. Stewart (pp. 977-978), previous to the final survey made by Z. E. Severson in 1908-1909, (pp. 645-646) who found the stakes of the prior surveys (p. 650) so that if the taking of thought, the making of intermittent surveys, the search for capital and capitalists (p. 947) and other activities incident to promotion may be considered such diligent prosecution of the work of construction as would entitle the promoter to the benefit of the doctrine of relation, the Lake Hattie enterprise might be considered to date from 1884.

In the view of the plaintiff, however, these historical particulars are only valuable to show the connection between the works of the Lake Hattie system, as finally realized, and the original Pioneer Canal enterprise projected and constructed in 1879 and the following years, and in substantial use for many years prior to the conception of the Greeley-Poudre Tunnel Project. In another connection we discuss the position of this and other later units of construction in connection with old and established systems as the exercise of the right and custom so generally followed in the Poudre Valley as shown by the defendants' witnesses and so typical of irrigation development generally. For the present we are considering this new work only as originating in the beginning of construction in July, 1908, in competition for priority with the Tunnel Project of which construction was actually begun near the end of that year.

It is shown by the testimony of Mr. Severson that

actual construction on the Lake Hattie work was begun July 17, 1909, and prosecuted with great diligence and that the works were put in operation early in 1912 (pp. 646-649) or possibly in 1911 (p. 663); and by the testimony of Lyman E. Bishop that \$944,000 had been expended prior to December 1, 1910, and a total of \$1,418,000 up to the date of his testimony, water being first taken into the Reservoir early in July, 1911, (pp. 773, 779, 787). About 700 acres of new land was irrigated from this system in 1913 (p. 826).

3. The King Ditch and Hutton Lakes Reservoir

The King Ditch is an old ditch built and in operation since 1879 (p. 278). It was enlarged and extended in 1908-1911 to fill Hutton Lake as a reservoir.

Testimony of J. A. Winkler (pp. 278, 283, 283, 308, 309, 311).

As indicated on the defendants' map, water is taken out of the Laramie River, in Sec. 3, Tp. 13, R. 76, and conducted through the old ditch to the eastward for several miles, the extension not being shown on the defendants' map, but appearing in the plaintiff's map, Exhibit G. The water is conveyed to Hutton and Creighton Lakes in Tp. 14, R. 74, which have been converted into a reservoir. It does not appear that any considerable irrigation has taken place under this new construction, except in Sec. 4, Tp. 13, R. 75 (pp. 310-311). As indicated by the map, the acreage of land actually underlying this extension is comparatively small, and is largely irrigated already from other ditches so that this work will of necessity be used chiefly for the purpose of holding back the

flood waters for crops requiring later irrigation, and for exchange purposes.

4. The James Lake System

This system is essentially the enlargement and extension of the Bellamy Ditch taking water from the Little Laramie River in Sec. 2, Tp. 15, R. 77 and conveying it through the old ditch northerly and easterly to a point in Sec. 32, Tp. 17, R. 76, whence it is conveyed by the Lake James Supply Ditch into Seven Mile Creek and flows into the old bed of Lake James, previously without an outlet. The water is stored in this reservoir and diverted thence through an outlet ditch with two branches serving a body of land lying west of the Big Laramie below its junction with the Little Laramie. Z. E. Severson made the survey for the works of this system, which was constructed 1908-1911, portions being completed and put in use in July, 1909, (pp. 631-644). Some 1500 acres had been irrigated under this system, of which 515 acres were in tillage in 1913 (pp. 991-992).

5. The Sodergreen High Line Ditch

This ditch does not appear on the defendants' map, or appears only as a short unnamed ditch, leaving the Laramie River on the north side in Sec. 36, Tp. 14, R. 77. It was surveyed in November, 1907, and construction work commenced on it in February or March following. It is about nine miles in length and serves a tract of several sections of land partly above and partly below the Lake Hattie Inlet Canal. The

ditch has been in use since 1911 (pp. 445-453). This ditch is really a revival of the Murphy-Collins Ditch, an old project begun many years ago, but the connection is not clear from the testimony and we suppose the Sodergreen Ditch will have to be considered as a new and independent construction. The ditch covers about 4000 acres.

A general view of the defendants' map thus discloses that these new constructions of 1900-1912 in Wyoming with the exception of the Sodergreen High Line Ditch, are designed and adapted to serve only lands which lay under the potential flow of the older works of unquestioned priority, and which could have been irrigated in every instance through distributing laterals from the older works. The reservoirs serve chiefly three purposes: First: To intercept and store at comparatively high levels water which could formerly be stored only at a lower level, where the radius of use was much shorter. Second: To carry over from the flood water period of May-June to the period of scarcity, July-August, the water formerly applied directly from the stream to the irrigation of native hay and pasture so as to make the same supply available for tilled crops of greater value requiring later seasonal irrigation. Third: To increase the re-use of water, which being applied on lands in the upper part of the valley, returns to some extent in the seepage flow for re-use lower down the stream. These are the familiar incidents of the typical irrigation development so elaborately described by the expert witnesses for the defendants.

6. The Colorado Tunnel Project

The defendants seem to question the right of the plaintiff and its citizens to this typical irrigation development—a right which the defendants have claimed and so freely exercised themselves for a long period of years, and to which they attribute in very large measure the progress and prosperity of the Poudre Valley; and they oppose this development in Wyoming with a claim of priority for the Greeley-Poudre Tunnel diversion project, which it is the object of this proceeding to prevent.

A sweeping claim is put forward to priority as of August 25, 1902, as a single system for the congeries of projects beginning with the Link Lake Ditch and Feeders filing of October 15, 1902, made by Wallace A. Link and Abraham I. Akin. Successive filings in May and October, 1904, September, 1906, July and September, 1908, and January, 1909, being Numbers 57, 1417, 1722, 3049, 4912, 5170, 5448 and 5453 in the office series of the State Engineer of Colorado, copies of which are among the Exhibits put in evidence by the plaintiff in this case, must be taken as, in the main, forming the basis of the defendants' claim to priority by "relation" from the date of the first survey of the first project in August, 1902, for the aggregate of the parts of the present plan to divert 70,000 acre feet or more per annum from the Laramie watershed to the Poudre watershed.

An analysis of the various projects as defined in the official filings thus made from time to time discloses the purposes of the defendants and their predecessors to divert from the Laramie watershed by three quite different and wholly independent routes and means:

1. The Link Lake Ditch and Feeders, subsequently designated as Upper Rawah Ditch, to collect water from a limited area on the western head waters of the Laramie and convey it to and through the Skyline Ditch over the Divide into Chambers Lake, an expansion of the Poudre River.

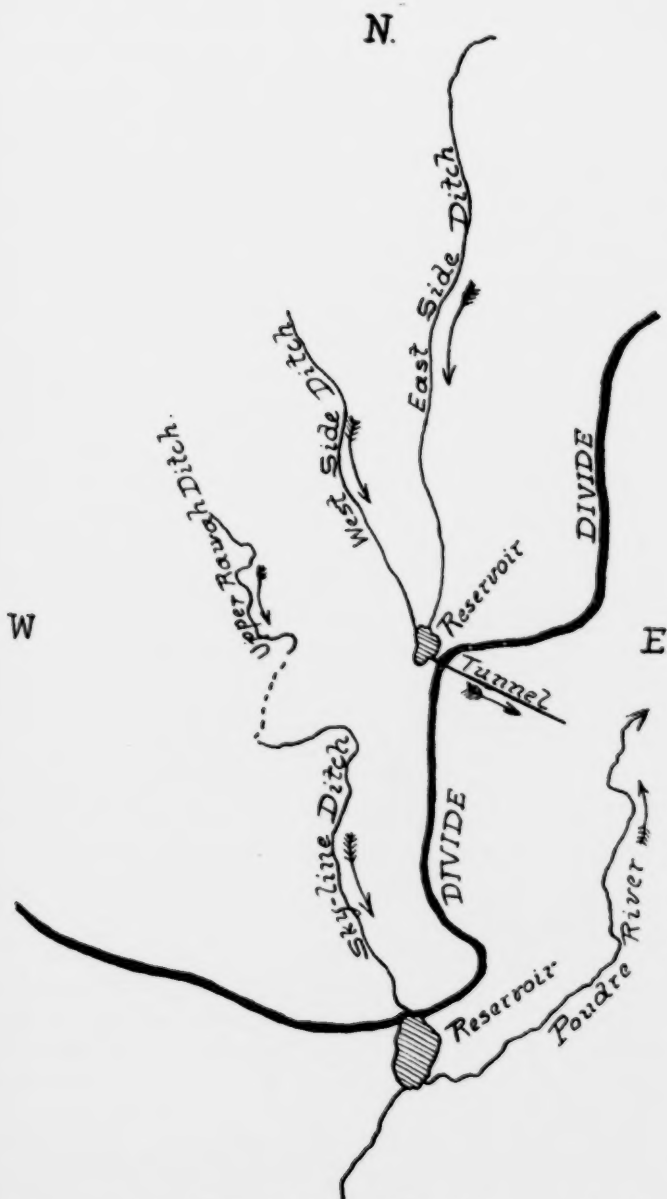
2. The Laramie River, Sand Creek and Lone Tree Ditch (in connection with the Reservoir near Glendevey) designed to collect the waters of the Laramie at a point near the southeastern corner of Township 10, Range 76, and carry them by canal north into Wyoming, then east across Shell Creek and Sand Creek, and south into a branch of the North Fork of the Poudre in Colorado.

3. Two collecting ditches (the East Side Ditch and the West Side Ditch), to gather water from both sides of the head waters of the Laramie and convey it with as little fall as practicable in a southerly direction to the main stream, and thence through a tunnel to a branch of the Poudre.

The defendants' map attached to the Answer significantly omits to show the proposed Laramie River, Sand Creek and Lone Tree Ditch with its Reservoir (sometimes called the Detour Ditch), but does show with other laterals the particulars of the Skyline and Tunnel diversions. The Detour Ditch was the last of the projected diversions to be surveyed and filed in the series of filings made in the office of the State Engineer, and so far as any public declaration was concerned, represented the final decision of the promoters to adopt that method of diversion rather than any of the others previously placed on record. We may for the present, however, dismiss the Detour Ditch diver-

sion from consideration since nothing has been done upon it in the way of construction, and according to the testimony introduced by the defendants it has been definitely and finally abandoned as impracticable.

This leaves for present consideration the two general methods of diversion of those enumerated above, which we may conveniently call the Skyline extension and the Tunnel. In order to aid in distinguishing these two methods of diversion from each other we have traced their essential units from the map attached to the Answer, and the accompanying sketch is made from such tracing.



SKETCH OF UPPER PORTION OF GREELEY-POUDRE DIVERSION WORKS
 Showing Two Independent Methods of conveying water from the Laramie to
 the Poudre by the constructions begun by the defendants.

That these two proposed diversions have naturally and properly speaking no connection with each other is obvious from an inspection. The significance of this visible difference or dissociation will be understood when attention is called to the fact that all of the work done by the defendants and their predecessors prior to the very late months of 1909, having for its object the diversion of Laramie River water, was done upon the Skyline Extension and none upon the Tunnel project. The two projects had the one common purpose of diverting water from the Laramie to the Poudre. They are not, however, at all comparable in the magnitude of their respective works, the extent of territory drained, the cost of construction, or the volume of water to be realized; the most that can be said—indeed, the most that the defendants attempt to say, as we understand it—is that the Skyline Extension could be inexpensively and quickly made, and would furnish a revenue from which the Tunnel works could later be constructed and the principal diversion made.

The testimony of the witnesses offered by the defendants to show the origin, history and progress of the plans to divert water from the Laramie, were adroitly and industriously marshalled to blend together in seeming unity all of the various and variant projects as parts of the single diversion now undertaken. When analyzed, however, it clearly appears that from the time of the commencement of actual construction on the Tunnel diversion works in the latter part of 1909, nothing has been done on the Skyline Extension. On the other hand, prior to the latter part of 1909 all of the work of construction was done upon the Skyline Extension and none upon the Tunnel project. Along with the Detour Ditch, the Skyline Extension appears

to have been consigned to the scrap heap as soon as the promoters were really prepared to go ahead with the Tunnel diversion.

Moreover, the work upon the Skyline Extension, such as was performed, was intermittent, and in comparison with the ambitious plans of the promoters, insignificant in amount and cost. Such construction as was done, although certain portions of the project are said to have been completed, was never put in use, though it is claimed to have been in condition for use at least as early as 1907 and probably in part in 1904.

As the evidence offered by the defendants in support of these projects was quite voluminous, and as they appear to attach much importance to it, we here set forth at some length references to the material portions. It will be found to deal very largely with successive surveys, protracted over a period of more than seven years; with inquiries as to the source and volume of water supply which seem to have comprehended investigations at every source except the one most obvious and convincing source—the examination of the streams and the measurement of the water; with search for an available body of land and of prospective purchasers to market the supply; with the pursuit of capital and capitalists to furnish the means of construction; and with negotiations for carriage, franchises or other rights to convey and distribute the water after it should finally be delivered into the Poudre.

Wallace Link is the witness to whom is assigned the credit for discovering the projects. Link received his inspiration in 1897. While hunting deer he observed that the Divide was narrow and the Poudre considerably lower than the Laramie in that vicinity, and estimated that a mile and a half tunnel would divert

a considerable supply of water (pp. 1929, 1930). Link was then ranching in the Upper Laramie Valley in Colorado, and he subsequently sold out and settled under the Fossil Creek Reservoir about five miles southeast of Fort Collins on the south side of the Poudre River and there became acquainted with Abraham Akin, to whom in 1902 he disclosed his plan. (pp. 1930-1931). In speaking of the project Link says:

"We adopted a method by which we were to build a part of the system first and employ the same to demonstrate the flow which was obtainable, and also to assist in making money for further promotion. After our first trip to Link Lakes and over that country we thought that the first thing to do would be to build this Ditch and connect it up with the Skyline Ditch, as this being a unit of the whole *would retain our franchise and as well give us revenue to proceed in the construction of the work.* It was the cheaper part as well as the best revenue earner of the whole proposition. The idea was to connect with the Skyline Ditch and turn it into the Chambers Lake and into the Poudre." (p. 1932-1933). * * * *

"My plan in developing this work was to commence near the point of intersection with the Skyline Ditch and extend the line of that ditch northwesterly as funds for that purpose were obtained, in order to tap the drainage lying above the ditch line, and to carry the water from that area through the Skyline Ditch into the Valley. * * *

We originally planned to use some of the water diverted through the Upper Rawah Ditch and Skyline Ditch into the Poudre River works, either directly or through an exchange system, and to sell the rest of it for a supplemental supply for other lands, and thereby secure funds to help work out the rest of the Laramie River diversion system, including the Tunnel. This plan has not been

carried out, and no water was sold at any time.” (pp. 1994-1996).

Link and Akin viewed the ground in July and commenced a survey August 25, 1902, of the Link Lake Ditch, later called the Upper Rawah Ditch (pp. 1934-1935). The filing based on this survey was made October 15, 1902, and is exemplified in Plaintiff's Exhibit N, which is not printed in the Abstract but is filed with the original transcript. (p. 1835).

Throughout the testimony of Link (pp. 1920-1924, 1936-1939, 1941-1944, 1958, 1960), as well as in the testimony of the witnesses, Wortham, Hedke and Duval, much space is taken for the purpose of showing the difficulties of terrain, climate, situation, etc., in prosecuting construction work on the head waters of the Laramie. Attention is called, however, to the fact that this testimony (more particularly that of Link) applied to the site of the Skyline Extension, that is the Upper Rawah Ditch, and not to the locality of the lower works connected with the Tunnel diversion proper, which is located near the floor of the valley at a much lower altitude. The promoters chose the work presenting these special difficulties and directed their efforts to that work at the intervals when it was under prosecution from 1902 to 1909.

In 1903 Link worked on a road leading from the floor of the Valley to the elevated region of the Skyline Extension project. (pp. 1941-1945). In March, 1904, Link and his associates made a preliminary survey of the Tunnel site, and in May began the final surveys for the Tunnel and connecting works under Zac T. Duval, who also re-located the Upper Rawah Ditch. (pp. 1947-1952). After describing this work Link

states that "all surveys of all ditches now in course of construction were completed during the Summer of 1904." (p. 1952). * * * "Surveys for the system were entirely completed in 1904 (p. 1990)." Construction work was commenced in 1904 and about 6000 lineal feet of excavation done on the Upper Rawah Ditch, the total amount expended for surveying and construction that year being \$13,000 to \$14,000. (pp. 1953-1959.)

In 1905 no construction work was done, and the surveying appears to have been limited to an estimate of the construction done during the preceding year (p. 1964). In 1906 Link states that the work of financing, surveying and planning was going on continually. In that year he disposed of his interest and ceased to be connected with the projects (p. 1965). "No further work was done in 1905 or 1906." (p. 1996). In a summary review of the progress of the enterprises during the period of his connection with them, Link says:

"Mr. Hibbard had the duty of finding capital for the enterprise, and up to the time I sold out, he had not succeeded in finding it. When I was in the enterprise we had not considered any \$5,000,000 expenditure. We had counted only on the cost of the Laramie River project, and we had not gone into the Poudre Valley end of the matter, and when I sold out I had no interests in the projects upon the Poudre River, my interest being confined to the plan for diverting water from the Laramie River.

The cost of the work which I had planned was estimated at about \$2,000,000. In 1903 no money was expended on clearing; in 1904 about \$14,000 was expended on construction work and clearing, but not including surveys, and no money was expended on construction work in 1905. I cannot

say as to 1906. I do not know how much was spent on engineering in those two years. Up to the close of 1906 the entire amount expended on construction work was \$14,000, but this does not include expenses of roads and cost of transportation, moving, and establishing camps, all of which I believe should be included in construction work, and which would bring the total expenditures in the mountains up to \$18,000 or perhaps \$20,000. This work was practically all done on the Upper Rawah and Link ditches. No considerable amount was expended on the Lower Rawah or the West Side ditches nor on the tunnel or reservoir, but about \$1,300 or \$1,400 was expended on the East Fork Reservoir." (pp. 1987-1989).

It is to be noted that the East Fork Reservoir mentioned was definitely abandoned and is not a part of the present system. (p. 1820).

Link explains that they had an arrangement with the owners of the Skyline to carry for a percentage the water to be supplied by the Upper Rawah Extension. The Skyline Ditch had a capacity of only about 130 second feet, which during May and June was fully taken up in carrying its own water, so that none of the new supply could be carried through it during that time, but would have to be carried outside of that period. (p. 2002). Yet the Upper Rawah Ditch, as is elsewhere shown in the testimony, was planned to carry 224 second feet. It is contended, we understand, that this fact shows that the Upper Rawah Ditch was planned as a part of the Tunnel system. Inasmuch, however, as only about one-sixth of that ditch has been completed (p. 2005) and the ditch was never put in use, and so far as construction was concerned appears to have been definitely abandoned in 1907,

a much more probable explanation would be that the Upper Rawah Ditch was planned with an excessive capacity to compensate for the exceptionally large seepage loss expected, and to guard against the destruction of the ditch from overflow, which the testimony indicates did occur in 1905 or 1906, or to store flood water in the projected East Fork Reservoir (later abandoned) to propitiate lower appropriators on the Laramie River for the diversion of their flow during the latter part of the irrigation season.

The testimony of Abraham I. Akin generally corroborates that of Link for the period during which they were associated together from 1902 to 1906. (pp. 2038-2041, 2049, 2052, 2070, 2072). Akin, however, continued as an interested party after Link sold out. Speaking of the Laramie River diversions he says:

"There was no construction work done in that country in 1905 nor in 1906, and I cannot give any approximate statement of the amount expended upon work in the Laramie Valley in 1907. In 1908 there were four men employed in the Valley repairing the ditch, these men going up there in June and staying until after the tunnel was commenced in December, 1909. These men looked after the ranches on the river, cared for the road up the river, kept the ditch in repair, and after December, 1909, commenced clearing the right of way for the diversion ditches on the Laramie River. Until December, 1909, these men did no construction work." (pp. 2072, 2073).

Charles R. Hedke, who was the engineer employed by the promoters from 1907 until February, 1911, testified voluminously concerning surveys, water supply and distribution investigations, the campaign for cap-

ital, negotiations with other ditch and reservoir owners, and the development and progress of plans to secure water from the Poudre River drainage proper. He has much to say euphemistically of the progress in construction. On this subject his testimony is exceedingly mystifying, vague and baffling so far as any attempt is made to distinguish or specify what was done on the Laramie River diversion projects, from what was done on the Poudre Valley system and on general promotion work. A careful review of his testimony, however, brings into relief certain salient facts. He testifies that in 1905 and 1906 no work was done that he knows of in the Laramie Valley (pp. 1793-1794); that in 1907 about three miles of excavation was done on the Upper Rawah Ditch (pp. 1794, 1795) at a cost of about \$47,000 (pp. 1754-1757), but that no other construction work was done in the Laramie Valley (pp. 1794, 1795). In the Summer of 1908,

“The construction work in the Laramie Valley consisted of the completion of some small portions of the upper Rawah Ditch. We had a small number of men up there all summer, but I cannot say how many were employed nor for how long. I do not suppose the amount expended for that work exceeded several thousand dollars. Some incompletd sections of the ditch were finished, loose boulders and slides were taken out of the ditch and overflow sections made and a measuring device was put in and some clearing was done. No other work was done in the Laramie Valley in 1908, and I do not believe that any work has been done upon the upper Rawah Ditch since that time.” (p. 1798).

“No construction work was commenced in

1909 prior to the making of the contract between the Greeley-Poudre irrigation district and the Laramie-Poudre Reservoirs and Irrigation Company. Appropriations were then made for the construction of the tunnel. Camps were built and a power plant was built, and a few days after Thanksgiving Day or about December first, 1909, actual construction work commenced on the tunnel. I am not able to recall definitely, but I believe that some work was done upon the ditches in the Laramie Valley in 1909.

"Construction work was commenced on the East Side Collection Ditch in the Laramie Valley in 1910, commencing about May first, I believe, as early as the men could get in. Work on the West Side Collection Ditch had commenced before that time, and I believe they worked upon tunnels along that ditch some time during the winter of 1909 and 1910. The roads were kept open so that supplies could be carried in for that work, and there were perhaps 30 or 40 men engaged in it, and I believe that force was maintained throughout the winter, supplies being hauled in from the railroad in Wyoming, about 65 miles, I believe.

"The work on the East and West Side Collection ditches continued until October 1st, 1910, and I believe a little was done after that date on the West Side Ditch." * * * (pp. 1800-1802).

"The work was pushed in 1910 on the mountain system with all the men that could be obtained, and was closed down on October 1st, 1910, after which time work was performed only on the east end of the tunnel, excepting for the construction of several hundred feet of tunnel work upon the West Side Collection Ditch, which was performed by a few contractors in the winter of 1910-11. In February, 1911, I severed my connections with the Company, and no more work

was done under my supervision and observation (pp. 1805-1806). * * * *

"Prior to October, 1909, all the work that was done in the Laramie Valley was done upon the upper Rawah Ditch, and all that was done in 1909 or later was upon the lower West Side Ditch and the East Side Ditch. The reason for this was that in the early course of this project it was thought necessary to secure some current revenue immediately, and in 1906 a carriage right through the Skyline Ditch, and the construction work on the upper Rawah Ditch was undertaken so as to secure a property from which this current revenue could be derived, through the ten year period in which the major system would be constructed, but in 1909 the general contract was let which provided for the immediate construction of the whole system which would result in an immediate revenue so that it was no longer necessary to carry on the upper Rawah project. The idea leading to its early construction was abandoned, but the line itself was not abandoned, it being still intended under the general contract of 1909 to complete that work.

"The upper Rawah ditch may be considered an extension of the Skyline Ditch, and was originally planned to collect the water from above the ditch and deliver it into the Skyline Ditch, for the purpose of assisting in the development of the larger proposition on the Laramie. It was only a means to an end. It would carry it over the watershed into Chambers Lake. The surveys were made with this end in view, and also with the end in view to use the upper Rawah Ditch to carry water into the west fork of the Laramie River above the tunnel whenever the tunnel should be constructed." * * * *

"The upper Rawah Ditch, if completed, would drain a watershed containing from ten to twelve square miles, which is about one-sixth of the area

drained by the system now under construction." (1808-1811).

Zac T. Duval was engaged in the surveys of 1904, which he describes, as well as the construction in progress that year and the changes made subsequently in the plans prepared by him. In 1905 he made a survey of another tunnel thus completing the 1904 survey. (pp. 1882-1897). Duval, at some length, describes the conditions rendering the work difficult. (pp. 1895-1897). He states that the elevation of the upper Rawah Ditch is 1700 to 1800 feet higher than the elevation of the tunnel and its connecting ditches. (p. 1895).

John R. Wortham became the engineer of the Greeley-Poudre Irrigation District in June, 1909, and continued to act up to the time of taking of testimony (pp. 1606, 2099). The District was organized in April, 1909, the construction contract dated September 8, 1909, and ratified and the bonds voted by the District in October, 1909. Construction of the power line to furnish power for the tunnel construction commenced the latter part of October. Preliminary excavation began about Thanksgiving Day, and the first shot in the Tunnel proper was fired on Christmas Day, 1909. This witness also states

"The only work performed upon the system prior to my connection with it which could be noted upon my inspection was the work upon the Upper Rawah Ditch and the work upon the Canal in the Poudre Valley, although there might have been some money spent on maintenance and operation" (p. 2099-2101). * * *

"Excavation on the East Side Collection

Ditch commenced about April, 1910, and on the West Side Collection Ditch about the first of December, 1909, and work was stopped on both ditches on October 1st, 1910." (p. 2126).

The witness states that the East Side Ditch is $43\frac{1}{2}$ per cent. completed, and the West Side Ditch, $48\frac{1}{2}$ per cent., while the approach to the tunnel at the upper end is 79 per cent. completed. (pp. 2124-2126).

D. A. Camfield shows how the funds were provided for the construction of the tunnel system. He became interested in the Laramie-Poudre Reservoirs & Irrigation Company in the fall of 1908 (pp. 2159-2170), and spent \$15,000 in the fall of 1908 and the spring and summer of 1909 to find a route for a ditch around the mountains (Laramie River, Sand Creek and Lone Tree Ditch). He organized the District in April, 1909 (p. 2170), and the contract for construction was dated September 8, 1909; the work was proceeded with that fall (p. 2161), the bonds having been sold on payments to begin in March, 1910 (p. 2162).

The foregoing references are believed to cover all of the material evidence relating to the plans, surveys and construction pertinent to the Laramie River diversion projects. A large part of the testimony of the same witnesses and others is devoted to projects for the collection and diversion of water from the flow of the Poudre River and its tributaries, and some of the tributaries of the South Platte. Much of the testimony of the witnesses named is devoted to showing the protracted and strenuous efforts to secure capital for these constructions—excuses for not prosecuting the work, rather than facts showing such prosecution. It is not believed that these efforts can be regarded as a substi-

tute for the diligent prosecution of the construction work, which alone could support the claim of priority by relation to any date prior to the commencement of actual construction about December 1st, 1909.

2 Kinney on Irrigation, 1276.

Cole vs. Logan, 24 Ore. 304.

Rio Puerco Irrig. Co. vs. Jastro, 19 N. M. 149.

In the latter case the court said:

“The authorities all agree that the mere lack of means with which to prosecute the work is not a sufficient excuse for delay.”

In *Cole vs. Logan*, the court said:

“It would be a most dangerous doctrine to hold that ill health or pecuniary inability of a claimant of a water privilege will dispense with the necessity of actual appropriation within a reasonable time, or the diligence which is usually required in the prosecution of the work necessary for the purpose. We find no recognition of such a doctrine in the law; nor are we disposed to adopt it as the rule to govern cases of this kind.”

Nor are the defendants in any better position on the facts with respect to the voluminous excuses offered in the testimony concerning the climatic and topographical difficulties surrounding the work. Most of the testimony on this subject was directed as we have shown to the special conditions surrounding the upper Rawah Ditch on account of its great elevation and inaccessibility. These conditions, however, would not apply or applied only in a much less degree to the work on

the tunnel proper and its connecting ditches—the real tunnel diversion system.

It is not to be overlooked that when this latter work really was begun, it was commenced at the beginning of winter in 1909, and that work was prosecuted continuously and with great vigor as the witnesses show throughout that winter, and on the tunnel throughout the winter of 1910 and 1911. Mr. Link testifies with reference to the accessibility of this work, and that a road was constructed in 1876 the entire length of the Valley, which was subsequently used by ranchmen, and usually is open during the winter (pp. 1990-1991). As Link himself lived on a ranch in the upper Laramie Valley in Colorado for many years, his testimony on this subject was doubtless given advisedly and may be relied upon.

However, the plaintiff introduced further evidence on this subject of a convincing nature. R. D. Stewart was Chief Engineer and Superintendent of the Laramie, Hahn's Peak & Pacific Railway Company from 1902 on. This railroad extends across the same range of mountains near the Colorado-Wyoming line at an elevation of 9200 feet. Construction was prosecuted on this work during the winters of 1909-'10 and 1910-'11, and to some extent in the winter of 1908-'09. The witness has been on the Laramie River headwaters and thinks that even on the Skyline Ditch location it would be entirely practicable to carry on rock work during the winter season. (pp. 4380-4381). In January, 1914, the railroad hauled up a car or two of outfit for work on the Greeley-Poudre Tunnel (p. 4384). For years prior to the building of the railroad over the mountains, freight was hauled over the mountains every winter. (p. 4387). George Trabing was for eight years con-

tractor on the stage line crossing the same range of mountains between Laramie and Walden, Colorado. This was a daily line which ran regularly each winter and did not miss a trip in the last twelve years. The road was generally travelled and freight hauled over it through the winter. There was also a stage line running up the Laramie River from Jelm to Gleneyre and a postoffice beyond at Glendevey. This line ran three times a week and did not miss a trip. The witness had been at Chambers Lake (near the Laramie-Poudre divide) and found a good road running all the way up the river, which he thinks would be practicable to travel with sleds in the winter season. (pp. 4388-4390).

N. K. Boswell has lived in the Laramie Valley since 1868 and since 1869 has owned a ranch on the river at the Wyoming-Colorado line. There is a well-travelled road running up the river to the Chambers Lake district which has been travelled a great many years. Logging and timber cutting was done there in '67 and '68. The river valley is pretty well settled for about twenty miles above the Wyoming line and through the winter season people haul in supplies, etc. There is nothing to prevent communication to the tunnel in the winter season. (pp. 4398-4400).

The evidence on both sides then concurs on the material physical facts pertaining to the region where the diversion works connected with the tunnel were to be constructed. Plainly the claim is incredible that physical obstacles prevented this work from being done immediately after the so-called final surveys were made in 1904. The major part of it was actually done largely during the winter of 1909-10. There is no reason of this character why it could not as well have

been done in the winter of 1904-05, or in 1905-06. What is said by the witnesses concerning the lack of means on the part of the promoters to do this work prior to 1909-10 is supported by what they actually did in the comparatively insignificant construction on the Upper Rawah Ditch to adapt a cheap expedient for diverting water to earn revenue in the hope that they might thus be enabled at some future time to construct the tunnel works.

7. The Detour Canal

We have already directed attention to the series of filings made in 1902-1909 setting forth the varying plans for diversions from the Laramie. Plaintiff's Exhibits N, O, P, Q, R, S, and T were introduced (pp. 1835-1839), and are to be found with the transcript but are not printed with the abstract. These Exhibits are certified copies from the office of the State Engineer of Colorado of the various filings made by the Colorado promoters.

Exhibit N, filed Oct. 15, 1902, as already stated, represents the survey of the original Link Lake Ditch and Feeders, subsequently designated as the Upper Rawah Ditch.

Exhibit O, filed May 9, 1904, represents the East Fork Ditch and Reservoir which, as described by the defendants' witnesses, forms no part of the present enterprise. It was planned to take water from the West Fork to the East Fork above the Tunnel site and store it there in a reservoir.

Exhibit P, filed October 6, 1904, represents the original conception of the Tunnel Diversion with its feeders.

Exhibit Q, filed September 24, 1906, shows a greatly modified plan of this project.

Exhibit R, filed July 8, 1908, represents the Laramie River Reservoir, which it was designed to construct in the river channel at a point near Glendevy some miles below the present tunnel location.

Exhibit S, filed September 28, 1908, represents the Laramie River, Sand Creek and Lone Tree Ditch (Detour Canal) which, as already described, was to carry the water from the Laramie River reservoir just mentioned around the mountains into a branch of the Poudre, and thus avoid the tunnel altogether. (pp. 1835-1839).

Exhibit T, filed January 8, 1909, represents the omnibus plan of all the systems and all the projects as then conceived.

It will be found from an examination of these maps and the descriptive matter connected with them that the successive filings thus made from year to year were attempted to be tacked on the original filings made in 1902, claiming all prior surveys and filings as parts of the system, and professing to be amendments of the original plan without loss of the claim of priority. The evidence of the defendants' witnesses as to the good faith of these filings is conflicting. Indeed it is obvious from a comparison of the plans that they were alternative and inconsistent. A mere conspectus of the aggregate of these plans refutes the claim that they were all made in good faith to be constructed as parts of a single system.

Mr. Hedke first says (p. 1834) that:

"From time to time as surveys were made of different propositions of irrigation system, maps and

field notes were filed in the office of the State Engineer which represented plans of the company at the time of the filings as proposed by each individual unit."

Yet immediately afterward, the same witness said (p. 1839):

"It was never intended to construct all the works shown upon these maps. The maps cover and bring together all the previous filings, and show all the different means of accomplishing the same general end—the irrigation of the land in the Greeley-Poudre District. Many investigations were made to determine the best means of accomplishing this end, and these were incorporated in the various filings and in this map (Exhibit T, filed January 8, 1909), which was the last filing made by the company. Both the Tunnel and Sand Creek Ditch, which runs through Wyoming, and the Glendevy Reservoir, are shown on this map. It was known at the time the map was filed that the cost of the Sand Creek Ditch was prohibitive and that no possible relations could be brought about which would make it feasible. It was included in this map because at all times there were interests adverse to this system. The interests seeking to obtain some foothold in the Company so that it was necessary to protect what was done by filings, so that if the matter should come up in the future there would be record evidence of what was at one time covered."

Yet although this witness says that it was known when the last map was filed that the Sand Creek Ditch would not be constructed, the witness, Camfield, as already mentioned above, at least strongly implies in his testimony that the survey of the Sand Creek Ditch,

which was begun in the fall of 1908 and continued through the spring and summer of 1909 at a cost of about \$15,000, was made in good faith to find the possible route for an actual ditch around the mountains to avoid the tunnel and cover more land. (p. 2170).

It seems to us to be plainly deducible from all of the evidence that the Laramie River Tunnel Diversion project which was said to have originated in 1902 and to have become fixed and definite by the final surveys of 1904, cannot be regarded as an enterprise conceived and begun in 1902 and prosecuted with diligence to completion so as to give the defendants the benefit of the doctrine of relation which would establish its priority as of 1902 against other diversions begun and prosecuted with all diligence to completion and put in use in the intermediate period. We do not know of any rule or custom, and we are not able to find any authority, to support such a claim. In point of fact we think the inference is plain and irresistible that such work as was performed on this project between October, 1909, and 1911 was directly attributable to the large construction work undertaken on the Laramie River in Wyoming early in the year 1909 and prosecuted with all possible diligence to completion. Having dallied with their project for seven years with only fitful and wholly inadequate efforts to complete or use any part of it, the defendants could not fairly ask that the people in the valley of the Laramie should await their action indefinitely. If the citizens of Wyoming were chargeable at all with notice of what was contemplated in Colorado, they were also entitled to take into consideration that the long contemplation without substantial action or fruition rendered the Colorado diversions extremely indefinite and uncertain.

8. The Poudre Valley System

An important element in the claims of the defendant promoters yet remains to be considered. We refer to what is often spoken of in the testimony as the Poudre Valley system or Poudre Valley diversion, which fills a large place in the project for the irrigation of the lands in the Poudre Valley District as now outlined and explained by the defendant promoters. In its final form it is described as the Plains Division of their works. It is described in detail by Mr. Wortham (pp. 1699-1711). It is made up of many units, more or less completed and to some extent in use, designed and adapted to collect water from the Poudre River and its tributaries and tributaries of the South Platte below the junction and convey it to the Greeley-Poudre District lands. The parent trunk is the Poudre Valley Canal, which was commenced about 1901 or 1902 with the single design of diverting water from the natural flow of the Poudre at a high point above the plains and above other ditches, and conveying it eastward for an indefinite distance to water lands lying north and east of the river. (pp. 1735-1737). The witness, Hedke, was connected with this project long before he became connected with any of the Laramie River Diversion schemes. As late as 1904 it was being repaired and reconstructed, but was still unfinished (pp. 1739-1741). Negotiations subsequently took place between the promoters of the Laramie Diversion projects and the owners of the Poudre Valley Ditch, the exact nature of which it is difficult to trace in all respects, but in December, 1909, as Mr. Camfield testifies, the Laramie-Poudre Company purchased the shares in the Poudre Valley Ditch which were owned by the North Poudre

Company, completing the payments in January or February, 1910. (pp. 2162, 2172). As this testimony is quite specific and definite and as Mr. Camfield was the principal organizer of the District, and the chief promoter of its enterprises, his testimony as to the time when this transaction took place is probably to be taken rather than that of Mr. Hedke, who states that the purchase was made in 1908 (p. 1789). The Poudre Valley Ditch did not then serve any lands within the present Greeley-Poudre District (p. 1786). Indeed, it does not seem to have been designed for any particular purpose except to secure and store surplus water of the Poudre (pp. 1735-1737) and in 1904 was badly washed out by the flood waters (pp. 1739-1740).

We are considering with some minuteness the Poudre Valley Ditch as it represents the origin of the project to secure and use the waters of the Poudre River, and its tributaries. On the defendants' map this ditch appears as taking its departure from the Poudre River near the middle of Township 8, Range 70, and extending thence easterly to a connection with the series of Reservoirs north and northeast of Ft. Collins, and some distance from the Greeley-Poudre lands. As the present project is described in the testimony above cited all of the Laramie River waters as well as the waters of the Poudre must pass through this ditch; and it appears to be an indispensable link to connect the Laramie River Diversion works with the Greeley-Poudre lands or with the Poudre Valley system, so-called, of ditches and reservoirs. As the rights of the defendants in this ditch were not acquired until December, 1909, (p. 2172), it would appear that the Laramie diversion projects could not have been wedded to the Poudre Valley diversion projects or to the Greeley-Poudre lands before that time.

Other facts established by the defendants' testimony corroborate this conclusion, and indicate very clearly that the promoters who sold their projects to the District under the contract of September 8, 1909, and agreed to complete the construction, regarded the Laramie diversion projects as separate and distinct from the Poudre Diversion projects and reserved to themselves the option to complete and turn over the latter without assuming any responsibility for the former. The witness Hedke testified on this subject as follows:

"The Greeley-Poudre Irrigation District's system is divided into two general divisions, the 'Mountain Division', and the 'Plains Division', and by Paragraph 15 of the general contract of 1909 it was provided, 'that the work of completion to be done by the Company, meaning the construction work, hereunder, shall for the purposes of this contract be classified into two divisions, namely, 'The Laramie River Division', and 'The Plains Division', and each of said general divisions may and shall for the purposes of this contract and for the payments to be made hereunder be further divided both numerically and by name designated as hereinafter set forth; and relative hereto, it is mutually understood and agreed that this contract shall be taken and held to be *severable* as to said mentioned divisions and sub-divisions hereinafter described as aforesaid, and *not entire* as to the whole; and the Company shall be paid for each part of the contract, payment upon the entire contract price for construction work as set forth in the following schedules, and if work as described in schedule No. 1 shall be completed and sold to the District, then that schedule shall be followed and if the works described in schedule No. 2 shall be completed and sold to the District, then

that schedule shall be followed; provided, that upon each monthly estimate upon any of the uncompleted portions of the works to be completed and sold to the District hereunder there shall be paid to the Company 85 per cent. of the estimate thereon for the work done and materials furnished during the month upon which such estimate is based, and the remaining 15 per cent. shall be retained until the completion of the works upon which such estimate is made, and the amount to be estimated and paid shall be such amount as the value of the amount done shall bear to the total amount to be done upon the work upon which the estimate is based." (p. 1820).

The witness then enumerates the units of the Plains Division and says:

"This system has two distinct and independent sources of supply; that from the Laramie River and that from the Poudre River basin and the tributaries of the South Platte, and it was so designed that the Poudre Valley Canal could divert water from the Poudre River and also from the northern tributaries of the Poudre intercepted by the canal and from the tributaries of the South Platte as far east as Crow Creek and intercepted by the canal wherever there was surplus water. We estimated that the amount of water available outside of the Laramie River source would be between 80,000 and 100,000 acre feet per annum as an average. * * * * * The Poudre Valley Canal diverts water from the main Cache la Poudre River in Section 15, Township 8, Range 70, and is designed, with its extensions, to carry all of the water supply to the lands of the Greeley-Poudre Irrigation District. Its point of diversion is such that it can divert all of the surplus waters of the Cache la Poudre River, the

Big South Fork and its tributaries, the Little South Fork and its tributaries, the North Fork and its tributaries, and the other tributaries of the main stream above the point of diversion. It also intercepts and collects the waters of Hook and Moore Creek, Park Creek, Box Elder Creek, Sand Creek, Coal Creek, Rattle Snake Creek, Lone Tree Creek, Little Owl Creek, Robinson Creek, Owl Creek, Eastman Creek, another Coal Creek, Wild Horse Creek, another Sand Creek, and Crow Creek, as well as all other unnamed creeks and channels west of Crow Creek draining a portion of southern Wyoming and all that portion of northern Colorado lying north of the Poudre River and within its drainage basin, and also that portion of northern Colorado and Wyoming lying north of the South Platte River and west of Crow Creek." (pp. 1821-1822).

Both Mr. Hedke and Mr. Wortham testified in effect that of the two sources of supply that from the Laramie River was more certain and dependable than that from the Poudre and its tributaries. Their testimony, however, clearly indicates that this distinction was conferred upon the Laramie for the reason that the defendants counted on diverting all of the flow of that stream which they could intercept, without regard to the rights of appropriators below, while in diverting from the Poudre and its tributaries, they would be constrained to respect the rights of prior appropriators. (pp. 2083-2085, 2121). They see nothing inequitable in diverting Laramie River water regardless of the rights of others and carrying it a distance of 190 miles from its source with the consequent great waste of one-third (pp. 1828-1829, 1851), in preference to utilizing the waters of the Poudre which were their original and primary reliance.

The linking up of the Laramie River projects with the Poudre River projects then seems to have been a late realization of the defendants. It is ingeniously pressed in the presentation of their case as an early development tending to consolidate and perfect its appropriation from the Laramie River from the date of the first filing. Work on the Poudre project is thus made to do duty for the Laramie project, and a semblance of diligence in construction is thus created for a combination which could have had no tangible existence until the latter part of 1909, long after the latest date when the Wyoming appropriations could possibly be said to have taken effect.

It is interesting to throw upon this picture the light of the testimony of Wallace Link as to the scope of his project in 1902. Speaking of that period he says:

“At that time we did not know upon what land we should use the water. We first had in mind the use of a part of the water upon land in the neighborhood where my farm was located (south of the Poudre). There is a general feeling on the part of the owners of land under all of the ditches in the Poudre Valley that more water is needed, and generally speaking, it was the shortage of water in the valley that led me to consider this proposition. My idea was to obtain a supplemental supply in addition to the water furnished from the Poudre River, and to use this, if there was enough, upon other lands.” (pp. 1983-1984).

Again he testifies:

“It was recognized by me and by my associates that it would be necessary to locate ditches and works upon plains of Poudre Valley as well as to construct ditches in mountains.

"Poudre Valley Ditch had been constructed out of mouth of Poudre Canon in 1902. I have viewed lands that might be served from extension of this canal." (p. 1961).

Further he testifies:

"We originally planned to use some of the water diverted through the Upper Rawah Ditch and Skyline Ditch into the Poudre River ourselves, either directly or through an exchange system, and to sell the rest of it for a supplemental supply for other lands, and thereby secure funds to help work out the rest of the Laramie River diversion system, including the tunnel. This plan has not been carried out, and no water was sold at any time." (p. 1996).

Still further he testifies:

"We estimated that it would cost us \$30,000 to construct a ditch which we surveyed in 1905, which we called the High Line Ditch, covering lands on the south side of the Poudre River and south of Fort Collins. The construction of this ditch was not still in contemplation at the time I severed my connections with the enterprise. The other possible construction work in the Poudre Valley which we contemplated was the extension of the Poudre Valley Ditch, which Mr. Hedke and I surveyed in 1905 and 1906, but the survey of which was not completed while I was interested in the project." (pp. 2008-2009).

Finally Link testifies:

"When I spoke of the water being turned into Poudre Valley to supplement supplies there, I did

not mean it was to be applied to lands already irrigated. It was intended for new lands as well as supplemental supplies for old lands. It was not necessary at the outset to choose the particular area on which the water should go. There is large area of arid land in Poudre Valley fitted for agricultural purposes. There is demand for water as soon as it is obtainable by any possible arrangement. As new waters are obtained, old ditches are sometimes extended to cover lands possible of reclamation at their lower ends. Ditches sometimes are built to take in new areas. The supply of land fitted for agriculture by irrigation is very great. When we did our work in 1902 we knew there was a large area which could be served by ditch on south side of river. They have since covered a portion of this area through the Loudon Ditch. We also figured on something like 17,000 acres south of river, and so had Mr. Tenney and Mr. Duvall survey ditch around about Pleasant Valley Ditch. * * * We also knew there was area which could be reached by ditch on north side of Poudre River and lying above the irrigated area of the valley." (pp. 2026-2027).

Upon the whole showing the conclusion is reasonable, indeed inevitable, that in August, 1902, the only work contemplated presently to be done was the extension of the Skyline Ditch; that the method by which the diversion was to be made was not by the tunnel but by open ditch over the divide; that the purpose to which the water was to be applied was wholly speculative and undetermined; that at least for some years the promoters were spying out the land for a possible market for the Laramie water and in this search considered from time to time many different potential uses; that whenever a decision may have been

finally reached by them as to the best market available, and whatever course the negotiations may have taken, the plan was not made final or definite until December, 1909, when they procured the controlling interest in the Poudre Valley Ditch, and the right to carry water through that channel to the Greeley-Poudre lands which had then been decided upon.

9. The Equality of Right in the Typical Development.

Reverting now to a subject suggested in connection with the new works in Wyoming, and especially in discussing the Lake Hattie System, we wish to direct attention to the fact that Colorado is denying to Wyoming an important right which she herself has freely exercised, and in the results of which she takes a special and particular pride.

Prof. L. G. Carpenter in different portions of his testimony dwells at great length upon the history and analysis of the extension of irrigation over the lands of the Poudre Valley from the earliest times. This development he says is typical of all irrigation development and is the natural and inevitable process observed wherever irrigation has been successfully practiced. He speaks of the period prior to 1870 when sporadic construction of individual small ditches taking water from the Poudre River and spreading it over comparatively small individual holdings brought under irrigation perhaps an aggregate of 10,000 acres; of the period from 1870 to 1880, when community or company ditches began to appear, merging some of the small appropriations and extending the cultivation to perhaps 80,000 acres; of the era when foreign capital was enlisted in larger constructions between 1880 and 1890, bringing

the aggregate area up to 135,000 acres; of the development of the reservoir system and the importation of water from other streams from 1890 to the present time when some 260,000 to 275,000 acres are served (pp. 1438-1443, 2259-2294, 2314-2316). The witness describes the gradual filling up of the interstices of the soil and subsoil through irrigation, the consequent return flow through seepage, and the spreading of a given quantity of water over additional land as the soil becomes filled and the water table rises, the requirements of a particular tract growing less from year to year, the extension of ditches and laterals to keep pace with this progress and the consequent increase in economy of use and the duty of water as irrigation develops (pp. 2317-2339, 2376-2379, 3007-3022). Mr. Armstrong reviews the irrigation development in the Poudre Valley in a similar way. (pp. 2457-2460). Mr. Camfield relates his extended experience of the same general effect (pp. 2139, 2150, 2151, 2154).

Prof. Carpenter contrasts the Colorado practice in this respect with that of Wyoming, which he is pleased to present as a rigid, unscientific, uneconomical system. (pp. 2315-2317, 2337). Needless to say we think the witness misunderstands the effect of the Wyoming system and practice. Whether this is true or not it is clear that the implication from his testimony and the argument based upon it by the defendants in this case would deny to Wyoming the benefits of a practice which is followed in Colorado, and which is said to be typical and universal in all successful irrigation development.

We think this contention denies the principle which this court has often declared, and which it expressly applied in the case of *Kansas vs. Colorado*, 206 U. S.

46, 97, where it was said that "one cardinal rule underlying all the relations of States to each other is that of equality of right. Each State stands on the same level with all the rest." And to paraphrase another expression in the same opinion (p. 104) as Colorado thus recognizes the right of appropriators to extend the use of the waters of a stream for the purposes of irrigation of other and additional lands, as this becomes possible with the saturation of the soil, she cannot complain if the same rule is administered between herself and a sister State. In other words, Colorado cannot consistently deny to Wyoming a right which she recognizes and enjoys for herself in determining the scope and limitations of the rights of an appropriator.

It needs only the substitution of names in the testimony of the Colorado expert witnesses to show that the process now going on in the Laramie Valley in Wyoming is in substance the same process which has created the wealth and enhanced the prosperity of the Poudre Valley. It is a process of economy, of increased use and production, of diminishing waste and raising the duty of water, and of developing the agriculture of the Laramie Valley in Wyoming toward the same end which has proved in Colorado to be of the highest benefit to the community. Without increasing the burden upon the stream, without infringing the rights of other appropriators, and without injury to anyone, but with benefit to all, the construction of reservoirs and the extension of ditches and the increased acreage of the irrigation in Wyoming, is proceeding in the natural and typical way which the defendants' witnesses have described. We think it would follow then that even if the later constructions in Wyoming were not prior to the proposed diversion in Colorado, the

defendants could not complain that they were being injured in any way by the use of these works, since no additional burden is laid upon the stream.

III. WYOMING PRIOR APPROPRIATORS HAVE ALREADY EXPERIENCED SHORTAGE OF WATER WHICH ANY DIVERSION BY COLO- RADO WILL NECESSARILY INCREASE.

It is shown without any dispute that the Wyoming appropriators of conceded priority have for many years actually used the entire flow of the Laramie River and have suffered a shortage of water repeatedly. The proposed added diversion in Colorado could, of course, have no other effect than to make this shortage more serious.

The ranchmen and farmers in Wyoming were questioned as to their experience in securing water, and all bore the same testimony—that they have not had enough water after the high water period. With respect to the Riverside ranch, a few miles above Laramie City, Winkler says (p. 282): "I don't think they are getting as much water as they did two or three years ago—don't have the results, don't have the hay there they usually have."

Benson, in discussing the same large ranch, testified (p. 326): "There was a shortage of water this summer, and usually a shortage in previous years during the latter part of the irrigation season. The ditches on this ranch while I was there were kept cleaned out and in good condition to run water. We run them to capacity when we could get the water."

Rickard, the owner of the Bush and Holliday

ditch above Laramie, testified (p. 502): "I have been short of water several years since I have been there. I did not have half enough this last season. The shortage was in the river. When there is lots of snow in the mountains we have plenty of water, but in some winters there is not much snow; then we are short of water. We were short of water in 1902, short in 1903, very short; this year we didn't have half enough. In other years we were a little short, but it wasn't so bad. There have only been two years when we had plenty. In all the other years we were more or less short."

John Biddick testified about the irrigation of his land under the Biddick ditch below Laramie and above the mouth of the Little Laramie: "It was not irrigated this year. There wasn't any water in the ditch this year. They took it all from us. The river wasn't high enough to irrigate any." (p. 905). "My land is largely pasture and has been during the past few years. We have been short of water; that is the reason." (p. 909). "I don't know who took my water this summer. In 1912, there wasn't any water then worth mentioning. In 1911 we had a little water." (p. 909).

W. P. Schott had owned a ranch above Laramie only four years, and thus relates his experience (p. 4137): "Had difficulty in getting water two years out of four, the gates being closed down by the water commissioner upon complaint of the Wheatland project, in consequence of which I lost about 3,000 bushels of oats in 1913. In 1912 we had water and got good crops. In 1911 the water commissioner closed down my gate for Hans Olson, when we were going to use the water for oats, and we didn't get much of a yield."

Andrew Popp had the same experience, testifying (p. 4194): "Have had good crops and some poor ones, too, especially when the water supply got cut off, which was done twice in three years. Three years ago (witness was testifying in 1914) the water commissioner put a notice on the headgate that it was closed under order of the water commissioner. We got out of water and didn't raise any alfalfa at all. The next year we got water and raised some alfalfa. Last year they shut off the water the first of July." All of the other witnesses confirmed these statements, and a similar situation was shown to exist upon the Little Laramie River. (Ingham, p. 1082; Ernest, p. 1120).

The Wheatland project has had the advantage of a reservoir with a capacity of more than 80,000 acre feet, with only a little over half of the 80,000 acre tract under cultivation; diversified farming is general, this on the one hand giving a more economical method of using water than the method necessarily used upon hay land, and on the other hand increasing the use of water in the latter part of the irrigation season when hay meadows do not require much. Despite the existence of the reservoir, an advantage which the Laramie Plains appropriators do not possess, the Wheatland farmers have felt a shortage of water. W. L. Ayers testified (p. 1225): "There have been years when we were a little short of water. That has also occurred since the completion of the large reservoir on the Laramie Plains known as Reservoir No. 2. There have only been one or two years that the farmers had all the water they wanted. We were short this year (the year 1913). Last year we got along fairly well, though there were a good many complaints about the water last year. The lands of my neighbors take more water

than mine. Some of mine is sub-irrigated. With that exception I use about the same amount of water as they do. They are using it to the best advantage they know how. We usually feel the shortage in the last irrigation of alfalfa, the last of August and first of September."

W. A. Baker, another Wheatland farmer, said (p. 1259): "There has not at all times been sufficient water. I do not remember the details except in the last two or three years. In these years in the first part of the irrigation season we had a pretty fair run until the latter part of July. Then we began to fall short and cut down, and sometimes we would be stopped for a few days."

As stated, the record shows without any contradiction that these early appropriators have actually used all of the water of the river. The physical facts with respect to the stream make such proof easy. By reference to the map attached to either the bill of complaint or the answer, it will be observed that the Wheatland No. 2 Reservoir is at the extreme northerly or lower end of the Laramie Plains, and below all of the ditches and canals upon the Laramie Plains. This is a channel reservoir, created by a dam thrown across the river so that it is in a position to store every drop of water that comes down the Laramie River, the Little Laramie River or any of their tributaries. It was located in 1894, and completed in July, 1901 (p. 48). The former manager of the project, M. R. Johnston, testified (p. 35) that it was the practice of the company to keep the reservoir gates closed except when water was drawn for irrigation purposes, and water was never released down the river in the early spring or late winter; that there was not enough water

below the reservoir when the gates were shut down, to protect the fish; and at page 112-113 he testified that since the construction of the reservoir, water had been permitted to flow down the river on only two occasions excepting when there was some accident. In 1907 water was released from the reservoir as a precautionary measure, high winds and uneven settling of the dam creating doubt as to its safety. In 1909, which was a year of high water the like of which the witness who had been in charge of this project since 1888 had never seen, a very large quantity was discharged from the reservoir; in fact, it is stated by the witness at another place (p. 30-32) that in 1909 the water continued to rise at such a rate that all discharge gates were opened; that he constructed an emergency spillway with plows, through which the water ran at a terrific rate for several weeks.

It is thus shown that there was really but a single year between 1901 and 1913, a period in which occurred both years above and years below the average in stream flow, in which all of the water of this river system was not actually used by these Wyoming appropriators.

Prior to 1909 the James Lake and Lake Hattie systems upon the Laramie Plains, and the Sybille and Bordeaux units of the Wheatland project, had not been completed and had diverted no water, and thus it appears that from 1901 to 1909, except for the small amount let down the river in 1907, the Wyoming appropriators who have a conceded priority over the Colorado appropriation used the entire flow of the stream, and in using it felt a pressure for water which any new diversion in Colorado must necessarily increase.

The history of the construction of the Wheatland No. 2 Reservoir presents in striking fashion the in-

sufficiency of the supply of water after the first of July in each year. Mr. Johnston briefly stated the facts as follows (p. 114): "I was present when Reservoir No. 2 was located at its present site in 1894. The settlers under our canals had held meetings and offered to increase the price to be paid us per acre under their contracts, if we would build the reservoir. At that time there were 2,000 acres under cultivation. There had been difficulty in securing water enough for the 2,000 acres. We were in position to divert and had been diverting all the natural flow of the river. Prior to constructing Reservoir No. 2 we ran short of water the first of July in some seasons, and from the middle of July on in some years." And at page 28 Mr. Johnston testifies that the owners of this small area then under irrigation, finding themselves short of water for even that amount of land, called a meeting and demanded of the company the construction of reservoirs, and submitted voluntarily to an increase of \$2.50 per acre in their contract price for land and water. This resulted in the construction in the '90s of Reservoir No. 1, a small reservoir within the irrigated area itself, and the construction of Reservoir No. 2, of great capacity, completed in 1901. Certainly no more convincing proof that the undepleted flow of the river in July, August and September is wholly inadequate for the irrigation of the greatly increased acreage reclaimed prior to 1902, could be found.

IV. CERTAINTY OF INJURY FROM COLORADO DIVERSION, IRRESPECTIVE OF METHODS OF USE IN WYOMING, IS MADE CLEAR BY CONSIDERATION OF SEASONAL DISTRIBUTION OF FLOW OF RIVER.

The conclusion just reached is confused by the evidence offered by Colorado consisting almost wholly of generalizations, to the effect that there is a great waste of water in Wyoming through the methods of use. Without discussing the question of waste at this juncture, we believe it is clearly shown that the Colorado diversion will be a serious injury to the prior Wyoming appropriators irrespective of their method of using water, this being the conclusion from the evidence as to the seasonal distribution of the flow of the river.

The value of a water appropriation is determined wholly by the physical possibility and legal right to secure water under it when water is scarce; irrigation litigation arises when there is scarcity, not when there is plenty, and the right of a prior appropriator which courts are called upon to protect, is the right to take the water when the stream is low, and not the right to take the water when the stream is high. If all years were high, the country would be humid and not arid, and no irrigation whatever would be necessary. And so the effect of the Colorado diversion which is important to the Wyoming appropriators is its effect in years of low flow and in months of low flow, and the stream flow records introduced by Colorado itself show conclusively that whatever may be the adequacy of the

water supply during the high-water season of May and June for direct irrigation at these seasons, the present supply is wholly inadequate in July and August, and although the proposed diversion in May and June will in high years be of much less importance, that diversion in July, August and September is not only relatively much higher as compared to the amount of water in the stream at the point of diversion, but the portion of the drainage area from which such diversion is made is furnishing a very much higher part of the total stream flow than in the earlier part of the irrigation season. Accordingly, even should it be contended that the Wyoming appropriators make a lavish and wasteful use of water in May and June, during the period of greatest discharge, it still appears that when this high flow has passed and cannot be called back, the total flow of the stream is inadequate, even with the most economical method of use, to furnish water for these prior appropriators, and the Colorado diversion will further diminish this supply, already insufficient for the warm months of July and August, in which there is so little precipitation and the need is greatest. Much has been said by Colorado about the relative value of the grain crops in the valley of the Poudre as compared to the hay crop of the Laramie Plains, but never will Wyoming have an opportunity to carry on the gradual change from hay to grain now going on upon the Laramie Plains, if Colorado is permitted to take the best part of the water supply during the period of greatest need.

To present in the clearest form the practical situation with respect to the stream flow in the later irrigation season, and the greater relative importance of the higher drainage area in July, August and September,

we have prepared a table to show the comparative discharge of the Laramie River at Glendevey, Colorado, which is immediately below the Greeley-Poudre tunnel, and at Woods Landing, Wyoming, which is about ten miles north of the state line, and at the extreme upper end of the Laramie Plains, and below all of the mountain tributaries of the Laramie River, excepting one small one. The portion of the table relating to the discharge at Glendevey is derived from defendants' Exhibit 125 (p. 3418), which shows an average annual discharge of the river at this point for the six years included in the table, of 65,717 acre feet. This does not include the water diverted above the station by the Skyline and Wilson Supply (or Divide) ditches, which if added to the discharge at Glendevey would make the total 86,160 acre feet (p. 3420). It is also stated (p. 3422) that the six years covered by the table represent a flow of only 85 per cent. of the average for a long period, and upon that basis the Colorado engineer, Mr. Field, estimates the average annual flow at Glendevey to be 77,000 acre feet, this excluding, of course, the Skyline and Divide ditch diversions, (p. 3422), which if added would make the average annual discharge of the drainage area tributary to the Glendevey station approximately 100,000 acre feet. In the following tabulation, however, we have taken the discharge records as actually presented on Exhibit 125.

The discharge records of the Woods Landing station are taken from defendants' Exhibit 128 (p. 3440). This exhibit shows an average annual discharge of 254,111 acre feet, which for our present purposes would make an even more conclusive showing than a smaller amount furnishes. The winter records are, however, very greatly distorted, the discharge in January,

February and March, nearly all the way through exceeding the discharge in April, which is conclusive proof that the records for the winter months are entirely erroneous. The engineer presenting this table states (p. 3443) that while the table shows an aggregate discharge during the winter months of 68,349 acre feet, he has allowed but 32,000 acre feet, and accordingly we have deducted 36,349 acre feet from the total of 254,111 acre feet given in Exhibit 128 as the average annual discharge, leaving a balance of 217,762 acre feet. Aside from this change we have taken the figures for monthly discharge as given upon the exhibit; as stated hereafter in our general discussion of the stream flow records, we believe that these records as a whole are of but very little value, the methods of measurement being wholly unsatisfactory, but the records upon which Exhibit 125, covering the Glendevy station, and Exhibit 128, covering the Woods Landing station, are based, were obtained in the same way, and the objections that may be made to the one are applicable to the other, so that for our present purpose of showing the relation the discharge of each area bears to the entire drainage area of the river, the two tables may safely be used.

Comparative Table of Discharge of Laramie River at Glendevy (near Colorado tunnel) and Woods Landing, Wyoming. Abstract from Defendants' Exhibits 125 and 128.

	GLENDEVY	WOODS LANDING
Average annual discharge	65,717	217,762
May discharge	13,657	58,920
Percentage of annual	20.7	27.0
June discharge	27,644	76,107
Percentage of annual	42.0	35.0

	GLENDEVEY	WOODS LANDING
July discharge	9,706	22,293
Percentage of annual	14.7	10.0
August discharge	3,043	7,460
Percentage of annual	4.6	3.4
September discharge	1,818	4,314
Percentage of annual	3.0	2.0
May-September discharge	55,867	169,094
Percentage of annual	85.0	77.7

The foregoing table shows that in July the discharge at Glendevy is 14.7 per cent. of the annual discharge, while at Woods Landing it is only 10 per cent. In August the Glendevy discharge was 4.6 per cent. of the annual, and the Woods Landing discharge was 3.4 per cent. In September the Glendevy discharge is 3 per cent. of the annual, and at Woods Landing, 2 per cent. In other words, the proportion of the annual discharge of the river occurring in July, August and September, is about 50 per cent. greater at Glendevy than at Woods Landing.

Another important fact proved by the foregoing table is that as we have before stated, the portion of the entire supply of the river coming from the higher mountain areas is greater in the last months of the irrigation season than in the earlier months. In June the discharge at Woods Landing was 76,107 acre feet, of which amount 27,644 acre feet, or 36.3 per cent., came from the area above Glendevy; in July there was 22,293 acre feet flowing by Woods Landing, of which 9,706 acre feet, or 43.5 per cent., passed Glendevy. In August the Woods Landing discharge was 7,460 acre feet, and the discharge at Glendevy 3,043 feet, or 40.8 per cent., and in September 1,818 acre feet, or 42.1 per cent. of the discharge at Woods Landing flowed by the Glendevy station.

If to the discharge records as given in this table is added about 21,000 acre feet diverted into the Poudre Valley by the Skyline and Divide ditches, the proportionate value of the water secured from the high drainage area will be greatly increased. This amount should, of course, be added to both records, that at Woods Landing as well as that at Glendevey, but would increase the smaller flow at Glendevey proportionately more than it would increase the much larger flow at Woods Landing.

Colorado's engineer, Mr. Field, in his report upon the Riverside Ranch, immediately above Laramie City, stated, "The greatest demand will probably come in July, during which month probably three-fourths of an acre foot per acre will be required." (p. 3626). In our statement of the evidence relative to the amount of land irrigated in Wyoming, it has been shown that 52,186 acres is now under irrigation under ditches of conceded priority above the point where the Little Laramie enters the Laramie River, this being exclusive of the area irrigated from Sand Creek, the only stream excepting Fox Creek which is even nominally a tributary of the Laramie River between Woods Landing and the mouth of the Little Laramie. Accordingly, the water in the stream at Woods Landing constitutes substantially the entire source of supply for the land irrigated above the mouth of the Little Laramie River, 52,186 acres according to our evidence, and 38,241 acres according to the evidence for Colorado, (p. 2781). Accepting the statement of the state engineer of Colorado that this land would require three-fourths of an acre foot per acre during July, and assuming that the average annual discharge at Woods Landing in July is 22,293 acre feet (although we shall show that

this estimate is very much too high), then the amount of land which can be properly and economically served by this stream flow in July is 29,724 acres, or but little more than one-half of the area shown by the Wyoming evidence to be dependent upon this source. From this insufficient quantity Colorado intends to divert approximately the amount of water passing the Glendevvey gauging station, which in the years covered by the foregoing table averaged 9,706 acre feet, or 43.5 per cent. of the available supply for the Wyoming lands. This amount, however, is based upon records for years said to be only 85 per cent. of the average stream flow, and if we accept this Colorado contention, then the amount that will be diverted through the Greeley-Poudre tunnel in July in years of average run-off, will be 11,419 acre feet, or more than one-half of the amount of water available for the irrigation of Wyoming lands above the mouth of the Little Laramie River.

It is conclusively shown, therefore, that in years of so-called "normal flow" the entire water supply of this interstate stream is inadequate for the proper and economical use of prior appropriators in Wyoming, and that it is the purpose of Colorado to divert one-half of this insufficient supply into the valley of the Poudre River. But the proof of certain damage to the Wyoming appropriators goes much further than this, for we have been dealing with the abstract case of a year of average flow. Such years do not occur with any frequency, and there are just as many or more years with less than average runoff than there are years above the average, and in such years the necessities of the Wyoming appropriators will be just as great (and ordinarily, because precipitation is less, even greater), and the entire undepleted supply will be

even less adequate for filling that demand. In such years any diversion by Colorado will lead to even greater loss.

V. COLORADO'S WHOLE DEFENSE DEPENDS UPON HER RIGHT TO COMPEL PRIOR WYOMING APPROPRIATORS TO CONSTRUCT RESERVOIRS.

Since there is an unquestioned shortage in water supply during the last months of the irrigation season in almost every year, and during the entire season in years of low flow, Colorado's contention that the water supply is adequate for all Wyoming appropriations and for the proposed Colorado diversion, is necessarily based entirely upon a consideration of the flow of the river over a long period of years, and the defendants insist that the records covering such a period show that the average annual flow of the stream is wholly adequate; but as we have shown that from the time of the completion of the Wheatland No. 2 Reservoir in 1901 until 1909, a period of eight years, the entire flow of the stream had been conserved and used, it has been necessary for Colorado to attack the methods of use in Wyoming as wasteful and extravagant, to establish a theoretical stream supply of a vast quantity, and to scale down as much as possible the area of land upon which this theoretical water is used.

But no wheat is raised by the use of water that flowed by two years ago, and the high flow of 1912 could be of no possible value to the farmer in 1913 unless by the construction of reservoirs that flow was conserved for use in the subsequent year. Accordingly,

Colorado's whole case depends upon its right to demand of the prior appropriators in Wyoming that they construct reservoirs to conserve water from the high years for use in years of scarcity, and from the high months for use in the later season, in order that Colorado may take the water which they have heretofore been using by direct diversion. The great mass of evidence with respect to average annual flow, methods of use, and waste, is material only in this connection.

It must be noted that Colorado is not proposing to construct a reservoir in the Laramie valley and store therein in years of high water that part of the flow which it claims is not needed for the prior direct appropriators in Wyoming, and the evidence with respect to stream flow, average annual flow, and waste, has not been offered to justify such a storage or diversion in years of surplus; what Colorado is here seeking is to show that in years of high water there is a surplus which if stored by Wyoming will satisfy the Wyoming appropriators, and upon that basis Colorado contends that she shall have the right to divert the water the lower appropriators have heretofore used, and thrust upon those appropriators the expense of reservoir construction and the chance of having enough water even then.

VI. RESERVOIRS WILL NOT SOLVE WYOMING PROBLEM.

If Colorado has a right which no subsequent appropriator has ever been held to possess, and may require the prior appropriators in Wyoming to construct reservoirs in which to store water in high years to take the place of that which Colorado will divert in low

years, the Wyoming problem will not even then be solved by such reservoir construction, for the following reasons:

1. The construction of reservoirs is impracticable on account of the high cost as compared to the benefit from the use of the water, and because the fluctuation in annual runoff is too irregular to permit fully successful storage.

2. The total supply if conserved is not sufficient to fill Wyoming priorities if depleted by Colorado diversion.

The construction of reservoirs for irrigation purposes has always been entered upon for financial benefit, which is true of all irrigation practices. The value of the product from fruit trees in California justifies expenditures for the conservation and distribution of water which would clearly not be justified by the value of the hay raised upon the ranches on the Laramie Plains, and whether the State of Wyoming, which has had no control over nature, and if it progresses must utilize such resources as have been given it, poor as they may be, is to have the benefit of the natural development of the vast area lying within the valley of the Laramie and by nature tributary to that stream, will depend, if Colorado should take the water it desires, upon the extent of the financial return that may be obtained from the irrigation of this land as compared to the expense of constructing reservoirs. Colorado has burdened this record with tributes to the Poudre valley, and not content with proving the productivity of that area, has sought to make the picture more striking by setting forth the dismal character of the Laramie Plains, and now seeks to force the expense of

reservoir construction more extensive than that which has been undertaken in the Poudre Valley itself, upon an area which is described by the state engineer of Colorado in his testimony as follows: (p. 1413) "When he (any investigator) observes the new irrigation projects, he wonders whether the projectors have been competently advised, and whether it is not spoiling a good ranch country to make a poor farming country, which is destined ultimately to failure. This impression I received when I first went in there, and it has been borne in upon me ever since, every time I go up there."

Naturally we do not concur with Mr. Field's opinion (so different from his conclusion four years earlier, set forth in his report, (pp. 3624-3637) as a paid engineer upon the Riverside Ranch near Laramie) that the product from the irrigated land upon the Laramie Plains is so meagre as to make the expenditure of money in irrigation ditches waste, for through such expenditure there has in the course of time been built up a prosperous community, contributing largely to the prosperity of its State and nation; but it is true that the principal product to this time has been hay, of a value which will not justify expenditures for reservoirs.

But the construction of reservoirs is impracticable as a complete substitute for direct flow, for another reason—the fluctuation in annual discharge of the river. The defendants in the course of the presentation of the evidence developed a theory of obligation to conserve water which finally threatened the Poudre itself, inasmuch as the construction of reservoirs in that district has fallen very far short of such high duty, and it was then possible to secure from the Colorado expert,

Prof. Carpenter, a fair statement of the practical considerations influencing reservoir construction, as follows: (p. 3946)

“With regard to financial practicability of construction of reservoirs on Poudre River capable of conserving extraordinary floods, will state that they call for an expenditure that could be utilized only occasionally. It would be similar to financial proposition of people in Florida preparing to heat their houses in the same manner as those in the northern part of the United States. For years of unusually high flow in the Poudre River, conservation works, to utilize the excess waters in that stream, would have to count on carrying water over more than one year. The utilization of this water means the presence of population on the land; that population must have a living from year to year and they are not justified in going out on to the land and settling to raise a crop only once in three or four years. They must have sufficient to make a living from one year to another, and consequently the investment must be such that there can be sufficient water every year to keep these people on the land, and when water can only be conserved once in every three to five years, there must be provision for carrying over water or the people cannot live. It is a question of population as well as investment. The population has to exist and stay on the ground. From the standpoint of investment, conservation of flow such as extreme flow of 1884 would be impractical to the extent that it exceeded the ordinary high year. Of such character would be the floods of 1885, 1900 and 1909, three years in thirty.”

As a matter of fact reservoirs cannot be constructed upon the theory that by so doing it is possible to make yearly use of the theoretical average flow of a river.

This would be impossible even if the flow of a stream fluctuated with complete regularity, being 125 per cent. of the average in odd numbered years, and 75 per cent. of the average in even numbered years, for the 25 per cent. that is carried over in each alternate year would in the course of a year's storage suffer a very large loss from seepage and evaporation, the evaporation alone, according to a Colorado witness (p. 3754), being as much as six feet per year from the surface of standing water. But stream flow varies in no such manner. For a few years, high and low seasons may alternate; sometimes there are several years of high water grouped together, and sometimes several years of low flow succeed each other. The only rule that seems to be derived from long time records is that there will be one or two years of exceedingly high runoff which will tend to raise unduly the average for the period so that the number of years in which the flow falls considerably short of the average will be greater than the number of years in which the flow is greatly in excess of the average. These irregularities of stream flow are well shown by the defendants' Exhibit 124 (marginal page 3398), which gives the discharge of the Poudre at the mouth of its canyon from April to October, inclusive, from 1884 to 1913, showing an average net annual discharge during the period, of 297,322 acre feet. To facilitate the discussion of practical irrigation problems arising from irregularity in stream flow, we here set forth a tabulation derived from Exhibit 124, setting forth the runoff in each year, the percentage this bears to the average for the thirty-year period, and the amount in acre feet by which the runoff exceeds or falls short of the average:

Variation in Discharge of Cache la Poudre River Derived from Defendants' Exhibit 124

YEAR	Runoff in Acre Feet	Per cent. of Average	Variance from Average
1884	666,466	227	+369,144
1885	465,475	157	+168,153
1886	290,392	98	- 6,930
1887	286,840	96	- 10,482
1888	155,970	52	-141,352
1889	185,060	62	-112,262
1890	221,023	74	- 76,299
1891	257,236	87	- 40,086
1892	193,790	65	-103,532
1893	216,730	73	- 80,592
1894	309,444	104	+ 12,122
1895	344,500	116	+ 47,178
1896	162,340	55	- 34,982
1897	332,070	112	+ 34,748
1898	172,290	58	-125,032
1899	388,591	131	+ 91,269
1900	474,573	160	+177,251
1901	339,155	114	+ 41,833
1902	151,636	51	-145,686
1903	345,150	116	+ 47,828
1904	315,437	106	+ 18,115
1905	361,652	122	+ 64,330
1906	279,974	94	- 17,348
1907	386,244	130	+ 88,902
1908	252,843	85	- 44,479
1909	486,002	163	+188,680
1910	157,514	53	-139,808
1911	205,611	69	- 91,711
1912	297,722	100	+ 400
1913	217,959	73	- 79,363

Average runoff 297,322.

The foregoing table shows that in the thirty years, one lone year had an average runoff, which of itself sufficiently demonstrates the misuse of the word "nor-

mal", as applied to the average or mean flow over a period of years. In thirteen years the runoff exceeded the average, and in sixteen years the runoff was below the average. In four years the discharge exceeded the average by more than 100,000 acre feet, and in seven years it fell short of the average by more than 100,000 acre feet. In seven years the runoff exceeded the average by more than 50,000 acre feet, while in eleven years it fell short by more than that amount. In 1884 the discharge exceeded the average by more than 369,000 acre feet, being 180,000 acre feet in excess of the next highest year on record. Even with the present reservoir development of the Poudre valley, none of this water could have been stored for the benefit of subsequent years, because in 1885 the runoff exceeded the thirty year average by 168,000 acre feet, which would have exceeded the total reservoir capacity of the Poudre valley as now existing. For all practical purposes, therefore, the surplus discharge of 1884 has been and could be of no possible value to the water users, and yet the presence of this year in the table raises the average for the thirty years by more than 12,000 acre feet, once more demonstrating the purely theoretical quality of the so-called "normal flow" of the river. But the important feature of this table lies in the fact that it shows how much the most complete reservoir construction will fall short of making available in each year the average discharge of a river. It is repeatedly claimed, and we believe with justice, that irrigation practice has reached its highest point in the mountain region in the Poudre valley, and we may therefore look to the present reservoir facilities in that valley as representing the farthest point that may profitably be attained, even in a wonderfully pro-

ductive country. Colorado's state engineer, Mr. Field, testified (p. 3721) that in 1912 the total capacity of reservoirs in the Poudre valley was 146,665 acre feet, and that there was stored in these reservoirs on November 1, 1912, 83,794 acre feet, leaving 62,871 acre feet of available capacity. In that year the stream flow was almost exactly the same as the average for the thirty year period, being 297,722 acre feet from April to October inclusive, and so it is seen that since only 62,871 acre feet of water could have been stored in addition to that actually stored at the close of the irrigation season in that year, the total flow of the stream of which use could be made would be 360,593 acre feet, and any flow in excess of that amount would be lost for lack of reservoir capacity. It appears from the foregoing table that in seven of the thirty years the flow was in excess of 360,593 acre feet, and that the total excess above that figure in those seven years was 704,832 acre feet. Accordingly, even though there had been, throughout the thirty years, the same high stage of reservoir development which had been attained in 1912, there would have been a direct loss of 704,832 acre feet, and a corresponding deduction of 23,500 acre feet should be made from the average flow of the stream, if we are to determine the average amount which in actual practice can be used in the Poudre valley. And even from this must a deduction be made where two or more high years come together, because the reservoirs once being filled cannot conserve any part of the surplus of a second high year; and finally, the great loss from seepage and evaporation must be deducted. This, we believe, sufficiently shows the error that must exist in any conclusion as to the amount of water available through the construction of reservoirs,

based merely upon the average annual runoff as derived from stream flow records.

The inadequacy of reservoir conservation as a substitute for a direct supply is finally demonstrated by observation of the manner in which low years frequently follow each other. A very marked example is furnished by the record of the Poudre as above set forth, for the years prior to 1894. 1884 was the largest year on record. It was followed by another exceedingly large year, and then followed two years of almost average flow, and then six years of very low discharge. No conceivable reservoir system could have conserved the whole surplus flow of 1884. No present reservoir system could have conserved the surplus discharge of 1885. Whatever the amount stored from those two high years might have been under any conceivable circumstances, that amount would have had to be carried over the years 1886 and 1887, which were of average discharge, with the resulting losses, and would have been exhausted by the demand in the very low year of 1888; certainly by the demand in that year and by the demand in the almost equally low year of 1889. No possible amount of storage could have saved any water at all for the use of appropriators in the low years 1890 to 1893 inclusive. This same situation is repeated in the last few years. 1909 had a very large surplus flow, being about 188,680 acre feet in excess of the thirty year average. As a matter of fact none of this surplus was conserved in the Poudre valley; on the contrary it appears that in this favored country of perfect irrigation practices and complete conservation of water not even the so-called "normal flow" was used in that year, for defendants' Exhibit 113 (p. 2487), shows that in 1909, 288,588 acre feet of

water flowed from the Poudre into the Platte River, indicating the use and storage in the year of less than 200,000 acre feet, or only two-thirds of the "normal flow" of the stream. But assuming that it had been financially practicable to construct irrigation systems designed to make use annually of a flow approximating the average flow of the stream, and to construct reservoirs to conserve the surplus of high years for use in low years, even then the amount carried over from 1909, when the inevitable losses from evaporation and seepage are considered, would not have done more than supply the deficiency of 1910, which fell short of the average by 140,000 acre feet; and then followed the year 1911 with a discharge more than 90,000 feet below the average, which would have no supply from former years; the year 1912, with an average flow from which, on the hypothesis assumed, no water could be stored for future use; and the year 1913, with a shortage of 80,000 acre feet, with no stored water to fall back upon. Now if we assume that from this discharge there had been diverted into another watershed the comparatively constant runoff from the head of the stream, amounting to 75,000 acre feet, the disaster to the farmers in the years 1911, 1912 and 1913, would be certain.

Our contention is not that the construction of reservoirs as a general rule is not profitable, and we concede that many irrigation enterprises are successfully carried through where there exists a shortage in some years, but in this case the Wyoming appropriators have a supply which is certain and comparatively constant in every year, namely, the runoff of the high mountain territory at the head of the Laramie River. Colorado threatens to take this certain supply, and contends that its place may be taken by water stored

in years of high flow, in reservoirs which it insists Wyoming should construct, and we now say that even if Colorado may impose this burden upon the prior appropriator, Wyoming, even then the supply so secured will not be constant and certain in each year, and will not therefore be compensatory for the amount taken by Colorado. This is the conclusion if we treat Wyoming appropriators as a single body; it is much strengthened when it is considered that they are numerous, own individual ditches, and must each for himself construct his own reservoir or else pay a large price to some company for reservoir water to take the place of the water which he appropriated without charge from the direct flow of the stream.

Finally, Wyoming contends that the entire flow of the Laramie River, even though fully conserved and economically used, is not adequate to supply prior Wyoming appropriators if the proposed Colorado diversion is made.

We have deferred discussion of the difficult question of water supply as a whole to this point in order to avoid confusion, for we have shown that the Wyoming appropriations are based upon the direct flow of the stream, that this direct flow, if undepleted by Colorado, is a wholly inadequate supply during the most important part of the irrigation season, and that the question of total river discharge in periods when not required for direct diversion is material only if Colorado has the right to take the direct flow and compel us to build reservoirs.

If Colorado has this right, then it becomes important to determine the adequacy of the entire flow of the river, and on that point we contend that the supply is not sufficient to permit the Colorado diversion,

even though it be possible to store all excess flow and hold the water so stored without loss until a low year comes, an irrigation development which, as we have just shown, cannot be attained and which is far beyond the development in the productive Poudre valley.

There are two methods by which the question of the adequacy of the water supply may be determined: First, by ascertaining the volume of water, the area of land irrigated, and the theoretical requirements of that body of land; second, by showing that in actual practice the available supply has been used upon a given area of land without waste.

Colorado has depended principally upon the first method, Wyoming upon the second.

Let us consider the first, requiring as it does the determination of three items:

- a. The average annual flow of the stream.
- b. The area of land irrigated.
- c. The theoretical duty of water.

a. Average Annual Flow of River.

This topic is discussed at considerable length in our original brief, pp. 31-47, to which we would respectfully refer the court; to avoid too much repetition we shall here enter upon no general discussion as appears there, but shall confine ourselves to a more specific reference to the particularly important evidence.

One witness for Colorado, Prof. Carpenter, testified concerning a few individual discharge measurements made by him in 1912, but did not testify generally concerning river flow. Such evidence was given by only two witnesses, one the state engineer of Colorado,

Mr. Field, and the other our hydrographer, Ralph I. Meeker. Mr. Field, so far as the record shows, not only never made a discharge measurement himself (p. 4272), but he did not even have personal direction of any of the hydrographic work the results of which he used in his computations; commencing with April, 1913, he was the state engineer of Colorado, and in that capacity had control of such hydrographic work as was carried on by his assistants, but even in that year he did not personally supervise any of the work upon the Laramie River. On the other hand, the testimony of Mr. Meeker is based upon discharge measurements taken by him personally and by observers acting under his continuous personal supervision, for the period of two years commencing in May, 1912. He supplemented his testimony with respect to the exact discharge between May, 1912, and May, 1914, by conclusions as to the average discharge over a longer period, and in reaching such conclusions made an analysis of all available data (p. 4327), but the important portion of his testimony is that relating to the discharge in the two years covered by his actual measurements, and this is the only evidence of such character appearing in the record. Mr. Meeker's qualifications and diligence as a hydrographer are not challenged. His hydrographic experience covered a period of thirteen years with the Geological Survey, the federal reclamation service, and private corporations, and commencing in May, 1912, until his final testimony in May, 1914, he devoted his entire time to hydrographic work upon the Laramie River and its tributaries (p. 217).

The relative value of the suppositions, surmises, inferences and deductions of Mr. Field and the definite testimony of Mr. Meeker, is best shown by a considera-

tion of Mr. Field's testimony and the continuous difficulty he experienced by reason of the character of the hydrographic data with which he was compelled to work. The instances are so many that but a few may be given.

One set of discharge records which Mr. Field could not accept was the Geological Survey report of the discharge of the Laramie River at Decker's ranch, a gauging station in Colorado immediately above the state line. He says (p. 3435) that there are two sets of records for this station, one kept by the water commissioner and one published by the Geological Survey, and that the latter is very much lower than the former; that the Geological Survey hydrographer had prepared on the ground a rating table which he gave to the water commissioner, and by using this rating table and applying it to the gauging heights as determined by the water commissioner, the witness ascertained that the discharge was much greater than that given in the published record (p. 3435). He also explains (p. 3436) that the published record is based upon a rating table worked out several years later by some hydrographer in Washington with no personal knowledge of the conditions, and that the note attached to the published record that the gaugings were probably too high because of a defective meter, indicates to him that the gaugings were actually too low, because a defective meter would have that tendency. He reaches the same conclusion, that the published records are very much too low, by comparing them with the records of discharge at Glendevy, several miles farther up the stream, and says that the indicated inflow between the two stations is too small, thereby proving that the Decker record is too low, not that the Glendevy

record is too high, (p. 3435), and finally he rejects the conclusion, drawn from the records at Decker and at Boswell, which is immediately below Decker's ranch and just north of the state line, that the amount contributed by Colorado to the Laramie River is 197,000 acre feet (p. 3436).

In dealing with the data with respect to discharge at Woods Landing, a station in Wyoming a few miles north of the state line and below practically all tributaries, Mr. Field excludes the records relating to discharge in January, February and March, because they are questionable (p. 3441); discards the records for the years 1889 and 1893, inclusive (p. 3440), and uses the records between April and October subsequent to 1894 as the foundation upon which he ultimately bases his conclusion with respect to the average discharge of this stream, and says of these records that they are "more reliable and less open to question" (p. 3441).

Generally of the Woods Landing records, Mr. Field says:

"At Woods Landing Station we have records more or less complete and more or less authentic and reliable for years 1889 to 1900 inclusive, with exception of year 1894. We also have records for 1911, 1912 and 1913, the only records. Most of them at least are not entirely above suspicion, probably on account of ice conditions and fragmentary conditions of records and lack of sufficient number of actual gauge readings during winter. 1912 record as shown on Exhibit 128, was amount given by R. I. Meeker in his tables showing discharge at Pioneer Dam. These records are from April to December inclusive for 1912. This amount for 1912 given by Mr. Meeker is open to serious question, especially for months of June

and July, for reason that amounts given for those months for Pioneer Dam station are less than discharge for same months of that year at Boswell Station, notwithstanding that there is very considerable runoff during those two months from territory lying in between the two stations." (p. 3447.)"

The record taken by Mr. Meeker which Mr. Field here criticises, was made at the Pioneer Dam, four miles below Woods Landing at a point where the river has entered the Laramie Plains, and the measurements were made of water passing over a concrete weir in a dam across the river, so that cross section measurements and gauge heights were absolutely accurate, something that is impossible in measurements made in open rock-strewn channels (p. 218). The record taken under these conditions, and presented under oath by a qualified hydrographer who made the measurements, is not acceptable to Mr. Field, who criticises it on the bases of records kept by persons who did not testify, some of them with no hydrographic experience whatever, at Boswell, a station in the mountains where the channel to be measured is irregular.

Again (p. 3465) Mr. Field points out a serious error in the published record for the discharge at Woods Landing in 1895, a mistake which he discovered by getting hold of the original gauge records and replotting a discharge curve, thereby increasing the annual discharge more than 44,000 acre feet.

An even more striking illustration of the uncertainties of discharge records based upon data furnished by ranchmen who undertook to take gauge readings and change automatic register charts, and who attend to this to them unimportant business just as they happen

to think of it, is supplied by Colorado's long tale about the hydrographic tragedy occurring at Boswell station in 1912. The Colorado expert, Prof. Carpenter, testified (pp. 3792-97) that on May 29, 1912, he discovered that the automatic register was not recording the height as indicated on the staff gauge, and that frequently throughout the summer the register was checked with the gauge and found to vary from time to time from three-tenths of a foot to one foot. This, of course, required a recomputation of the gauge readings furnished by the automatic register, it being necessary for the person revising the record to estimate just what the variation from the actual depth was from day to day. But this was not all. Prof. Carpenter likewise discovered at the same time that the river overflowed its channel when its depth reached 3.4 feet, and a considerable volume of water flowed around the bridge at which the measurements were made and through several culverts, and from time to time during the high water season he measured the flow through these culverts (p. 3798-3804). Here again it was found necessary to increase the discharge record above that as published by the state engineer of Colorado. And because the record maintained continuously by Mr. Meeker at the well equipped station at Pioneer Dam does not agree with the record at Boswell station, taken under these conditions and revised time and again, the Pioneer Dam record is not accepted by the Colorado expert. These instances pointed out by Colorado witnesses, of gross errors in discharge measurements, well illustrate the truth of the following general statement of Mr. Meeker (pp. 4273-4275):

"I am familiar with the general practice and

methods used in measuring streams and recording flow, and have had about fourteen years' experience in measuring streams and in computing data and in analyzing data secured by others, and I am familiar with the methods of measurement and sources of records in the State Engineer office of Wyoming and Colorado and the U. S. Geological Survey, having spent several years with the survey in Colorado and adjoining states, measuring streams and canals and in that work and related work, since which time I have had occasion to go into the records both in Wyoming and Colorado. The accuracy of stream records depends first on the natural conditions at the gauging station, and secondly, the methods and care used in securing those data. The greatest and most common errors that occur in stream measurement are usually caused by incorrect soundings, which invariably give too great a cross section, especially in high water measurements. The reasons are that in making soundings the weight in streams which have rock beds sinks into holes between the rocks or the weight and lines are carried down stream to a point not perpendicular to the cross section, giving soundings which are too great. Errors also occur from lack of keeping the meter point clean and sharp to avoid increased friction. If not well oiled and in good condition the velocities secured are below their true values and the measurement is less than the actual volume of water. At times on mountain streams the velocities of swift currents can only be secured on the surface when a co-efficient is required for the reduction to a mean velocity. Such co-efficients are based on experience and judgment is needed in their application. The tendency of all high water measurements both from sounding and velocity factor is to secure too high results, as disclosed by an examination of the older and earlier records, which being from high water measure-

ments, are usually in error and give results far too great. Errors also occur from the settlement of the gauge, and unless frequent checkings of bench marks are resorted to, these errors may cover a considerable length of time, giving a gauge reading which is too high and therefore showing more water than actually passes. Errors frequently occur from careless readings of the gauge or from neglect and faking of the records. The time of day at which gauge height observations are taken may not give a true mean for that day, especially on mountain streams, where the daily tide is pronounced. In case automatic stage registers are used, it is very important that the pen be checked with the staff gauge each time the chart is changed, and proper notations be noted on the sheet, in order that corrections may be made. Errors also occur in measurements at time of high water from rising and falling stages. Back water from dams, drift or other things frequently vitiate the results for short periods. Ice conditions are an important factor and the direct application of discharge measurements based on open channel conditions and applied to gauge heights secured when ice conditions obtain, give result too large. This is also true of obstructions of channels by driftwood or otherwise. Numerous instances have come to my notice of stream measurements in the west where the winter records are practically of no value, being grossly in excess of the actual runoff. This has been confirmed by the more efficient methods of today and greater care used that a sufficient notation as to conditions during the time observations were secured. The errors in the field in making stream measurements are not the only ones. Errors frequently occur in computation, and especially so in the extension of the discharge curve beyond known points of measurement to cover high water. In such case the error is usually positive. In summation then,

the accurate measurement of stream flow with current meters is not a mechanical operation which can be performed by indiscriminate and inexperienced persons but requires experience and judgment, not only in the field, but for the proper application and computation of the data secured. Errors in stream measurement preponderate in the positive direction."

But Mr. Field's testimony and conclusions were not based wholly upon this great mass of nondescript records, the correctness of which he himself so frequently challenged. He adds to the results obtained by the use of these records in two ways: first, by assuming that the records even if correct do not represent the flow in years of average discharge, and second, by finding additional supplies of which he has no measurements.

Mr. Field presented a table which has heretofore been discussed, of the discharge of the Poudre River for thirty years, and throughout his discussion of the Laramie River he assumes that because the very highest portions of the drainage area of the two streams join, that the high and low years upon the Poudre will coincide with the high and low years upon the Laramie. For example, in his discussion of Exhibit 127, a table showing the discharge of the Laramie River at Woods Landing from April to October in each year, being the table upon which he ultimately bases his conclusions with respect to water supply, Mr. Field says (p. 3442) that the average discharge for the nine years which includes all of the data with which Mr. Field is satisfied, is 198,545 acre feet for the months of April to October inclusive. In this period there occurs, he testifies, ninety per cent. of the annual flow, and he accordingly

concludes that the annual average discharge would be 220,490 acre feet; we have no objection to this method of estimating what portion of annual flow occurs in particular months, but in these same nine years the flow of the Poudre River was only ninety-six per cent. of the thirty year average, and Mr. Field unhesitatingly assumes that this is likewise true of the Laramie River, and thereby boosts the average annual flow of the stream to 230,000 acre feet, this being exclusive of the amount diverted into the Poudre River by the old Skyline and Divide ditches, and (p. 3470) Mr. Field even uses this same method upon the Little Laramie River, whose headwaters do not approach within fifty miles of the Poudre and are in a different range of mountains, and applies the Poudre average for as small a number as two years.

We do not believe that this method of determining stream flow has any value, and in order to show that this is true, we offered in evidence a table, complainant's Exhibit T-9, showing the discharge of the North Platte River near Saratoga, Wyoming. (p. 4298). Mr. Meeker, who prepared the table, testified (p. 4297) that the North Platte and Laramie rivers flow about parallel to each other eighty miles apart, the upper portions being only twenty miles apart, however; that the drainage basins are similar, and that in his opinion there is a closer resemblance between them than between the drainage basins of the Laramie and the Poudre, and that the annual fluctuations in the flow of the Laramie and North Platte would be more nearly the same than in the case of the Laramie and Poudre rivers. By this table it appears that the discharge of the North Platte River in 1912 was 115.5 per cent. of the average flow for eight years including the very

high year of 1909, and in 1913 was 73.7 per cent. of the average, whereas it is contended by Colorado that the discharge of the Laramie River in 1912 was 101 per cent. of the average, and in 1913 was about 51 per cent. of the average, because the flow of the Poudre in those years bore the same relation to the average of that stream. Different experts may, it is thus shown, draw such widely different conclusions as to the average flow of the Laramie River, dependent upon whether the flow is considered as more closely related to that in the Poudre or that in the North Platte, that any conclusion based upon any other records than those of the stream itself, must be wholly unsatisfactory. It may be reasonable to say that a very high year upon one stream will coincide with high years upon other adjacent streams and that all streams on the same side of the continental divide will have low flows in the same year, but it is absurd to contend that in these river systems lying many miles apart the annual fluctuations will be within two, ten, or even twenty per cent. of each other.

And finally, Mr. Field has very largely based his conclusions upon an entire lack of data in many instances. He includes in his summary (pp. 3476-3477) 17,000 acre feet as the flow of Sand Creek, and this is the basis upon which he determines that flow: "Sand Creek drainage in Colorado is about 50,000 acres, from which runoff should be one-third of an acre foot per acre, or in round numbers 17,000 acre feet." (p. 3445). As a matter of fact Sand Creek is only nominally a tributary of the Laramie River. We have shown heretofore that nearly 6,000 acres are irrigated from this stream in Wyoming, and it is shown without contradiction (p. 890) that in only five years since 1877 has

any water flowed from Sand Creek into the Laramie River. But it does lie within the Laramie River basin, and upon the theory adopted by Colorado its flow may properly be considered in determining the entire water supply of the whole vast drainage area, but certainly this kind of evidence as to what the annual flow of the stream is, is of no value.

Mr. Field finds an average discharge of 9,000 acre feet from Stuck Creek, one of the small Colorado tributaries (p. 3428-29), his conclusion being based on two measurements in May, five in June and two in July in 1912, and a larger number of measurements in May, June and July in 1913, and the rest of the year is wholly guess work. Mr. Field also properly uses the term "estimated discharge" in considering the value of Johnson and Beaver Creeks, upon similarly inadequate data (p. 3432).

Fox Creek, entering the stream between Woods Landing and Pioneer Dam, is said by Mr. Field (p. 3473) to have an annual discharge of 14,400 acre feet, based upon no data whatever excepting the area of the drainage basin. He then finds 12,800 acre feet in the mountain territory north of the Little Laramie and west of the Laramie River (p. 3474), once more based on nothing but territorial dimensions. Another 12,800 acre feet appears from the territory on the east of the Laramie River on the basis of one-ninth acre foot per acre runoff for the whole area (p. 3474), and he is equally confident that there must be considerable runoff from the plains area itself, but conservatively omits it from his computations (p. 3474). Sybille Creek is given 20,000 acre feet, based upon the record for the single month of April, 1912, (p. 3475), and his conclusion is that the total water supply of the entire

Laramie River crainage area is 447,692 acre feet (p. 3476), of which 50,500 acre feet is the average annual discharge of the Big Laramie River at Woods Landing, including the amount diverted by the Skyline and Divide ditches, 20,700 acre feet is the average annual discharge of the Little Laramie River, and the balance the contributions from the miscellaneous sources just discussed (p. 3473).

We have shown that this evidence is not the testimony of any hydrographer who has made measurements in person but of an engineer whose only data have been unidentified records which he has continuously criticised as inaccurate, who after discarding inconvenient records and shaping the remainder to suit his purpose, has added materially to their face value by assuming that no combination of years in which records were taken did other than represent less than the average flow of the river, and who finally added a few miscellaneous items of water supply without any record at all, making the river larger and larger on its way through the plains and overlooking his statement on the first day he testified that streams in the arid regions differ from those in humid countries in that they decrease materially in flow as they cross the plains (p. 1386). Opposed to this evidence, Wyoming offers the testimony of the only hydrographer who made or personally supervised the continuous records upon which his conclusions are based. Since Mr. Meeker was testifying only with respect to his own records and was not compelled to resort to fanciful methods, his testimony is comparatively brief and the substance thereof is contained in two tables, complainant's Exhibits T-7 and T-8 (p. 4294). On the Laramie River at the Pioneer Dam, which is below all tributaries

excepting Sand Creek and the Little Laramie River, he found that the average annual flow over the period from April, 1912, to May, 1914, was 161,054 acre feet, and the average annual flow of the Little Laramie River as determined from the actual records covering the period from June, 1912, to May, 1914, was 68,820 acre feet. From an analysis of all available data including all used or furnished by the state engineer of Colorado, Mr. Meeker was of the opinion (p. 4296) that the average annual flow of the Laramie River at the Pioneer Dam was approximately 200,000 acre feet. He did not state his conclusion with respect to the average annual flow of the Little Laramie River, but his Exhibit T-8 shows that the total discharge in 1913, adding the amount diverted above the gauging station, was 59,637 acre feet, or a little more than one-half of the flow of the upper stream in that year.

Mr. Meeker, who certainly in two years had become thoroughly familiar with the streams upon the Laramie Plains, was able to testify from personal observation that the miscellaneous items contributed to the total water supply by Mr. Field do not exist. As has been stated, Fox Creek enters the Laramie River between Woods Landing and the Pioneer Dam, and accordingly whatever its flow may be it is included in the discharge records of the Pioneer Dam station. Mr. Meeker testifies that there is practically no inflow from the area north of the Little Laramie and west of the Laramie River, from which Mr. Field thought 12,800 acre feet would be derived (p. 4304-5), and that the same is true with respect to the mythical supply of 12,800 acre feet from the east side of the river (p. 4306). The discharge of Sybille Creek, whatever it may be, is a source of danger rather than of

supply to the Wheatland district, the only one that could be served from it, the discharge being due largely to cloudbursts, which when added to the water being drawn from the Wheatland No. 2 Reservoir frequently washes out the headgates of the distributing canals (p. 164-167).

As a matter of fact all of these small creeks are utilized for the irrigation of small meadows along them, the area of which is not included in the tabulation of lands irrigated from the Laramie River but the extent of which is indicated by the adjudication decrees hereinbefore abstracted.

Our conclusion is that the average annual flow of the Laramie River is not to exceed 200,000 acre feet, and the average annual flow of the Little Laramie River is about 110,000 acre feet, and that these two sources constitute the entire supply of water available for the irrigation of the lands served by the two streams.

b. The Area of Land Irrigated

We have heretofore discussed the evidence as to the amount of land irrigated in Wyoming, and have shown that the area irrigated from the Laramie River under ditches of conceded priority is 97,855 acres, and the amount irrigated from the Little Laramie River, all under very old priorities, is 48,344 acres, a total of 146,199 acres. This does not include the land irrigated from Sand Creek or the other little creeks upon the Laramie Plains, nor the lands irrigated from Sybille Creek, the North Laramie River and Chugwater Creek, on the east side of the Black Hills. For the irrigation of this 146,199 acres we have a water supply averaging

310,000 acre feet, and we are here assuming what is not the true condition, that it is practicable to construct reservoirs to store water for the use of all appropriators so as to make the average flow of the stream available as the actual water supply. Whether this amount of water is sufficient to irrigate this area of land, leaving a balance of 70,000 acre feet or more for diversion by Colorado in addition to the amount already diverted through the Skyline and Divide ditches, depends, using the method of argument adopted by Colorado, upon the theoretical duty of water.

c. The Theoretical Duty of Water

A discussion of the theoretical duty of water leads into a maze of opinions, assumptions and surmises, to which that arising from a discussion of stream flow records is not comparable. The all-important factor in determining how much water is necessary to irrigate a given area of land is the physical situation. If the subsurface water table is close to the surface as it is in the Poudre valley, since three million acre feet of water has been poured into the ground, a much smaller amount will be needed than if the water table is far below the surface as is true of the Laramie Plains; if the soil is thick as it is in the Poudre Valley, less water will be needed than in the Laramie Plains, where the soil, if we believe all the Colorado witnesses say about it, is nothing but gravel. If the climate is so favorable that intensive cultivation of high priced crops is profitable, the methods of use which can be adopted will lead to a higher duty of water than in a region where hay is the principal crop.

Mr. Field states that under one of the very large canals in the Poudre Valley, the average consumption of water was about 1.2 acre feet per annum; that through the re-use of seepage water the net duty of water is less than one acre foot per acre per annum, and that in his opinion the net duty of water in the Poudre Valley as a whole will ultimately rise to three-fourths of an acre foot per acre (p. 3415). Mr. Meeker testified that in his opinion the duty of water in one district of the Laramie Plains where the ditches are close to the river, is about one acre foot per acre (p. 4317). The manager of the Wyoming Development Company system, serving the Wheatland district, testified that the net distribution of water to the Wheatland lands in 1912 was between 2.6 and 2.7 acre feet per acre, (p. 212), and that in 1912 the distribution to the lands under the United States Reclamation Service project on the North Platte River just below the mouth of the Laramie River was 2.55 acre feet per acre, and in 1911, 4 acre feet per acre. (p. 213) Perhaps the fairest opinion is that of Mr. Field himself in his 1910 report upon the Riverside ranches near Laramie City. The report was intended for use in a colonization project, and the adequacy of the water supply was of course the most important feature upon which the opinion of the engineer would be valuable, and there would accordingly be no inclination on the part of the engineer to state that an excessive amount of water was necessary for the proper irrigation of land, because it would be harder to demonstrate the existence of such a large supply. He there stated as his opinion (p. 3626) that two and one-half acre feet per acre per annum was doubtless an ample supply. This is less than the amount of water distributed upon

the Wheatland lands, and upon the lands under the interstate canal of the Reclamation Service, districts where intensive cultivation is being practiced, and we may safely conclude is not unreasonably high. Upon this basis 146,199 acres of land having prior appropriations from the Laramie River in Wyoming would require 365,498 acre feet of water, or 55,000 acre feet in excess of the average flow of the Laramie and Little Laramie Rivers.

But we believe there is a more satisfactory method of determining the adequacy of the water supply of this stream, viz.: by showing that in fact the entire flow has been used without waste. This method requires no consideration of stream flow records leading necessarily to an unsatisfactory conclusion, nor any determination of the exact acreage of land irrigated, nor any conclusion as to the theoretical duty of water.

Wyoming has shown that all of the water of the river has actually been used excepting in the year 1909, since the completion of the Wheatland No. 2 Reservoir in 1901. Colorado has been able to meet this proof and its effect only by insisting that a large amount of water has been wasted, and in support of this claim has introduced much evidence that the appropriators on the Laramie Plains have taken all of the water they have wanted without any control being exercised by water officials, and that many of the ditches have no dams at their headgates to raise the water when the stream is very low, drawing the inference from these facts that there is no pressure for water and that the supply is superabundant.

It must be conceded that such conclusions might properly be drawn from such facts under ordinary circumstances, but the condition upon the Laramie

River is peculiar. By far the largest appropriation from the river is that of the Wyoming Development Company for the Wheatland system, and as shown by the tabulation of priorities which we have presented, this appropriation is also one of the earliest in priority. Accordingly it has been necessary for the upper appropriators to permit a large volume of water to pass their headgates, and since in low stages of the river the total stream flow is not equal to the appropriation of the Wyoming Development Company, the upper appropriators have no right to divert any water from the river at such periods and there would be no advantage to them in constructing diversion dams to enable them to take water at such times. That the absence of diversion dams is not indicative of a superabundant water supply if the large and early priorities are at the lower end of the stream, is fully recognized by the Colorado expert, Prof. Carpenter (pp. 2386-87).

The evidence with respect to the alleged waste of water upon the Laramie Plains is discussed at considerable length and with many quotations from the testimony, in our original brief, pp 60-63, and we feel we can add nothing to that discussion.

Finally, in considering the adequacy of the water supply of the river, assuming that the average flow of the stream over a long period of years and not the flow in any single year must be considered, it must be noted that as a matter of fact Wyoming has done just what Colorado insists it should do, and that even under these circumstances a shortage of water supply is experienced. Colorado contends that we should construct reservoirs; we have constructed a reservoir, the Wheatland No. 2 Reservoir, which being connected with the largest and one of the earliest priorities and

situated at the lower end of the Laramie Plains below substantially all of the ditches of later priority, acts in the words of Mr. Field (p. 3671) "as an equalizer of the whole stream during the season and from year to year, as it is never necessary to permit water to waste, and by the conserving of water when not needed upon the Wheatland tract relieves the demand on the river and makes it possible for higher ditches to get water when otherwise they might not be able to do so, if there was a shortage in the water supply", a situation which of course Mr. Field insists does not now exist. He further says (p. 3671), "Since its completion the Wheatland Reservoir has very largely increased the effectiveness of the whole river, and its capacity is so large that it can practically conserve the flow of the river."

While the Wheatland appropriation from the direct flow of the stream would exhaust the stream during a large part of the irrigation season, it has not been necessary for the Wyoming Development Company to enforce against the upper appropriators its right to the direct flow, for only a part of the entire acreage in the Wheatland district has as yet been cultivated, and the capacity of the reservoir is sufficient when added to the water that the upper appropriators permit to flow down the river to supply this land, the upper appropriators not trespassing too far upon the tolerance of the lower and prior appropriator by constructing watertight dams and diverting all of the water in the river during the lower stages. Under this arrangement the upper appropriators secure the benefit of the direct flow of the stream and the lower and prior appropriator relies upon the flood waters, and the situation as a whole is exactly the same as though the upper appro-

priators had constructed reservoirs to conserve the flood waters and the lower appropriator was taking the direct flow of the stream. In substance, therefore, Wyoming has actually developed a storage system which enables it to make full use of the average flow of the stream to an even greater degree than is the case in the Poudre Valley, and having done so experiences a shortage of water which will necessarily be increased by any further diversion in Colorado.

VII. CONCLUSIONS TO BE DRAWN FROM WYOMING PERMITS RECENTLY ISSUED

But it is claimed by the State of Colorado that other conclusive evidence in the record supports the testimony of Colorado as to the adequacy of the water supply. In Volume 2 of their brief filed in this case, on pages 214 to 220 inclusive, also pages 228 and 229, the defendant has collected together the evidence supposed to be conclusive on these matters. This evidence consists of divers permits issued by the State of Wyoming on and after April 21, 1908, for the use of water from the Big and Little Laramie. These permits are in the transcript of the evidence as actually taken in the cause and filed herèin, though they are not in the abstract of the evidence.

The conclusions reached by counsel are that the "total acreage for which permits have been granted by State Engineers of Wyoming since August 25, 1902, is 278,153.61 acres." And the conclusion goes on to say that "In addition to the above acreage thus granted permits, we have the Bath, Robertson McConnell and Bell No. 2 Reservoirs of The Laramie River Company's

system showing an additional grant from the River of 451,019 acre feet." From this counsel makes this conclusion:

"Here we find the plaintiff state solemnly decreeing that *after all* lands then under irrigation, or for the irrigation of which permits and appropriations had theretofore been granted or vested, had been and would forever be supplied with sufficient water for their annual reclamation, there still remained in the Laramie River sufficient water to annually irrigate 278,153.61 acres additional, and furthermore, that there existed sufficient water in the stream to warrant the construction of reservoirs for the storage of over 450,000 acre feet of water for irrigation of these or still other lands, after having already supplied the enormous reservoirs included within the acreage permits above mentioned."

One trouble with the argument for the defendant as above outlined is that it proves far too much. Putting it all together and remembering that the evidence here shows that it requires much more than an acre foot of water to irrigate each acre, but assuming that only one acre foot is necessary, the conclusion of the defendant is that there would be at least 278,000 acre feet for the 278,000 acres in favor of which permits were granted, and 450,000 acre feet for the reservoirs outside of the 20,000 acre feet diverted to Colorado by the Skyline Ditch and outside of the water required to irrigate more than 150,000 acres which had prior rights in Wyoming. In other words, this argument would prove that the average available supply from the stream is more than 898,000 acre feet. But the evidence from all years shows that there is not such an

amount of water even in the years of greatest floods, and even Colorado does not claim that the average annual supply of the entire drainage basin is more than one-half this much. There must, therefore, be some other explanation of the fact that these later permits are granted, and this explanation is not far to seek.

(a) These permits are *ex parte* by ministerial administrative officers. It is, therefore, impossible for these administrative officers when issuing permits for the use of water from a stream to adjudicate as to the amount of water already used by the hundreds of appropriators not made parties, or to adjudicate how much water remains in the stream after supplying such prior appropriators. The defendants are wholly in error in their frequent reference to the issuance of permits by a Wyoming State Engineer as a "solemn decree" that there is an ample supply of water for the purpose for which the permit is issued. The very word "permit" gives a wrong impression of the Wyoming method. None of these "permits" originate in the office of the State Engineer; their character is fully shown by Sections 727, 729 and 730, Wyoming Compiled Statutes of 1910, which provide that any person desiring to divert water from a natural stream shall prepare an application setting forth all important data which shall be filed in the office of the State Engineer, who after requiring such further information as he may find necessary, shall either indorse upon the application his approval or his disapproval. The application so approved is the so-called "permit". The difficulty in determining *ex parte* just how much water is available, the certainty that a very large proportion

of all permits, particularly for large projects, will never be followed up by actual construction, the appearance before the engineer of only one party, the applicant, all have led to a practice well exemplified in this very instance, of approving all applications which comply with the regulations of the office and letting the applicant take his chance upon the water supply.

(b) The method followed by Wyoming is not different in this particular from that followed in Colorado. Mr. Armstrong, a witness for the State of Colorado, testifies that he has been water commissioner or acting water commissioner of that water district in Colorado which includes the Cache la Poudre River and its tributaries for twenty-four years (p. 2454). He further testifies as follows:

“Decree of water right on Cache la Poudre River or any other stream, does not amount to guarantee that the owner will receive amount of water specified in decree, unless it is among the very earliest priorities. It is a pretty good guarantee if the priority is early enough, but it would have to be pretty early. The decree merely represents that if there is enough water to supply all appropriators, then you can have the next turn at the water to the amount of your decree.” (p. 2493).

Again, the Colorado engineer, Field, states that the decrees of the Colorado Court give to the Colorado ditches in the Laramie Valley 563 cubic feet per second, and he remarks:

“Fact that these decrees are for excessive amounts does not change flow of river. A decree

does not necessarily mean that there is that much water in river; neither does a decree put water in stream. (p. 3878)."

We have shown that the Wyoming "permit" is in no sense a "solemn decree", as stated by counsel for defendants. But here in Colorado we do have the "solemn decrees", for these decrees are judgments of the district courts of Colorado in contested proceedings. If Colorado assures us that such decrees prove absolutely nothing about the amount of available water supply, surely the Wyoming permits cannot be said to have any value in determining such question.

(c) In this case the permits, at least all of them which we have read, and we have read many of them, have this statement endorsed thereon:

"The records of the State Engineer's office show the waters of the stream to be largely appropriated. The appropriator under the permit is hereby notified of this fact, and the issuance of this permit grants only the right to divert and use the surplus or waste water of the stream and confers no rights which will interfere with or impair the use of water by prior appropriators."

(d) So well understood in Wyoming is the practice of allowing permits whenever application is made, and the necessity for allowing them in that form without adjudicating as to the amount of water already appropriated or the amount of surplus in the stream, or indeed the question whether there be a surplus, that the people of Wyoming when they came to frame their constitution put into it on that subject this language:

“No appropriation shall be denied except when such denial is demanded by public interests.” Wyoming Constitution, Article 8, Section 3.

We submit, therefore, that proof of permits issued after 1908 and the amount of water covered by them has no practical bearing upon the question of the actual amount of water in the stream; certainly no bearing whatever on the amount of water in the stream in average years, or upon the amount of water in the stream during the irrigation season in dry years.

SECOND

The Principles of Law Involved in the Case Applied to the Facts

SYNOPSIS

Colorado's Claims of Justification for Taking the Water. p. 128.

A. The Claim that Colorado Will take Only Surplus Water. p. 129.

1. General Doctrines of Prior Appropriation. p. 130.

(a) Right of Prior Appropriator existed in Both States even before Constitutions. p. 132.

(b) Rights of Prior Appropriator Are Exclusive. p. 134.

(c) Rights of Prior Appropriator especially Clear in Time of Water Deficiency, yet Colorado Will Take more Water at such Times. p. 140.

2. Effect of State Lines upon Rights of Appropriators. p. 153.

B. Colorado's Claim to an Equitable Division of the Waters. p. 165.

C. May Colorado Ignore Rights of Others by virtue of her Sovereignty? p. 187.

COLORADO'S CLAIMS OF JUSTIFICATION FOR TAKING THE WATER.

We believe that the evidence which we have sought to briefly analyze makes it clear that Colorado is endeavoring to divert from the Laramie River a very large amount of water, and that to say the very least such diversion is detrimental to Wyoming and her people.

As indicated above, Colorado admits both in the pleadings and in the evidence that she is intending to divert a large amount of the water. This she attempts to justify, as we have seen, on three grounds, which we will here repeat.

A

She contends that there is an abundance of unappropriated water in the Laramie River, and that her intention is to take only from the surplus and unappropriated waters.

B

She contends second that in case the doctrines and practices of prior appropriation would not justify her taking the water, she would still be permitted to take it on the ground that the waters should be equitably divided between the two adjoining States, and that her diversion as here intended will not transgress the principles of equitable division as applied to the situation existing between Colorado and Wyoming in relation to the Laramie River.

C

She contends that in case neither of her contentions as above shall be allowed, then that Colorado as a sovereign state may take all the waters found within her boundaries and use them as she will regardless of any supposed rights of others.

We shall attempt to discuss these three grounds in the order above given.

A

Colorado's claim that there is an abundance of unappropriated water and that she will take only from the surplus.

The very statement of her contention indicates that the claim here under consideration must rest on some principle of the doctrine of appropriation. The very language used in this part of Colorado's claim is language pertinent only to discussions of questions of prior appropriation, and it is evident that the defendants used this language with the full intention of claiming under the principles of prior appropriation.

In attempting to show that there is a surplus of water in the Laramie River out of which she is entitled to appropriate, Colorado uses the expression "normal flow" as probably indicating the average flow per year when a number of years in succession are considered.

As we have already seen, in the discussion of the evidence Colorado proceeds to deduct from this so-called "normal flow" such amount as she contends would be sufficient for Wyoming needs, and calls the

balance a "surplus". This method, as we have seen, leads only into error.

Again, Colorado adds together all the supposed flow of the Laramie River and all its tributaries, and calls that the flow of the Laramie River, and this no matter where the waters of the Laramie River are used in Wyoming for irrigation. The stream is not a mere level body of water, and appropriators near the head of the stream would not be particularly aided even by large floods of water at some point in the stream below them or at some point in some tributary stream which furnishes its water below. In other words, this method, on its face, leads only to error and confusion.

The General Doctrines of Prior Appropriation.

In this case the rules of prior appropriation are alleged in the bill of complaint and admitted in the answer to be as follows:

"In accordance with the customs and usages of the people, recognized by the laws and decisions of the Courts of both Colorado and Wyoming, in all cases where prior rights to the contrary have not intervened it has been the custom to divert and apply the waters of the natural streams to supply the deficiency in the annual precipitation to cultivate the lands within the drainage basin of said streams and make the same productive. Under the said customs, usages, laws and decisions it has been established, enacted, held and decided in both States as to the waters of all streams and other sources of water supply where prior rights to the contrary have not intervened that such

waters are open for a reasonable appropriation and use for irrigation purposes; that except as aforesaid priority of appropriation gives priority of right."

The Constitution of Colorado, Article 16, Sections 5 and 6, contains this language:

"Sec. 5. The water of every natural stream, not heretofore appropriated, within the State of Colorado, is hereby declared to be the property of the public, and the same is dedicated to the use of the people of the State, subject to appropriation as hereinafter provided."

"Sec. 6. The right to divert unappropriated waters of any natural stream to beneficial uses shall never be denied. Priority of appropriation shall give the better right as between those using the water for the same purpose; but when the waters of any natural stream are not sufficient for the service of all those desiring the use of the same, those using the water for domestic purposes shall have the preference over those claiming for any other purpose, and those using the water for agricultural purposes shall have preference over those using the same for manufacturing purposes."

Many Colorado cases state and illustrate the same doctrine.

Coffin v. Left Hand Ditch Co., 6 Colo. 443.

Hammond v. Rose, 11 Colo. 524.

Schilling v. Rominger, 4 Colo. 100.

Wyatt v. Larimer etc. Irrigation Co., 1 Colo. App. 480.

Beaver Brook Reservoir Co. v. St. Vrain Reservoir Co., 6 Colo. App. 130.

The Constitution of Wyoming, Article VIII., Sections 1 and 3, are as follows:

“Section 1. The water of all natural streams, springs, lakes or other collections of still water, within the boundaries of the State, are hereby declared to be the property of the State.”

* * * * *

“Sec. 3. Priority of appropriation for beneficial uses shall give the better right. No appropriation shall be denied except when such denial is demanded by the public interests.”

The decisions in Wyoming further illustrate the same matter.

Farm Investment Co. v. Carpenter, 9 Wyo. 110.
Willey v. Decker, 11 Wyo. 496.

Throughout the arid region the rule is more or less similar, though in some the doctrine of prior appropriation is made more or less subordinate to the general doctrines of riparian rights.

Atchison v. Peterson, 1 Mont. 561.
Crane v. Winsor, 2 Utah, 248.
Jones v. Adams, 19 Nev. 78.
Barnes v. Sabron, 10 Nev. 217.
Irwin v. Phillips, 5 Cal. 140.
Kidd v. Laird, 15 Cal. 161.
Sharp v. Hoffman, 79 Cal. 404.
Lux v. Haggin, 69 Cal. 255.

Right to Appropriation existed in both States Prior to Constitutions.

Indeed it is held in both States that this principle

existed as the law of the region prior to the enactment of their constitutions.

“The history of water rights in this State will show that the rights and principles declared in the constitution were recognized and acted upon by the people years before they were formulated and declared in that instrument; that such rights had their inception in the earliest attempt at agriculture, when it was found that climatic conditions demanded the artificial use of water to produce crops. The title of the public and the people to the water in the streams, and the right to divert and appropriate, were recognized and acted upon, the only requirement being an application to a beneficial use; and such rights to the use of water as between different consumers or users were established upon the broad equitable basis that preferences were to be controlled by the respective dates when the conflicting appropriations were made.”

Wyatt et al., v. Larimer-Weld Irrigation Co.,
1 Colo. App. 480, 497, (29 Pac. 906).

“The common law doctrine relating to the rights of a riparian proprietor in the water of a natural stream, and the use thereof, is unsuited to our requirements and necessities, and never obtained in Wyoming. So much only of the common law as may be applicable has been adopted in this jurisdiction. The doctrine invoked is inapplicable. A different principle better adapted to the material conditions of this region has been recognized. That principle, briefly stated, is that the right to the use of water for beneficial purposes depends upon a prior appropriation. Our statutes have repeatedly recognized this right, and the constitution of the State declares it. We incline strongly to the view expressed by the Supreme Court of

Colorado, to the effect that such right and the obligation to protect it existed anterior to any legislation upon the subject."

Moyer v. Preston, 6 Wyo. 308, 318.

The Right of the Prior Appropriator is Exclusive.

In both Colorado and Wyoming and in every other State where irrigation is practiced, it is held to be the only equitable rule that the rights of a prior appropriator shall be considered exclusive, and that he shall at all times take from the stream such amount of water as he needs up to the full amount of his appropriation without any requirement that he shall divide with other appropriators in times of scarcity. As a necessary result of this doctrine, it is everywhere held that the prior appropriator has a right to the stream as he originally found it; that he is not obliged to build reservoirs nor store the water, but has the right to take it from the stream as it was running when he first appropriated, and without any requirement that he shall make any expenditures whatever in order that others may have water. Indeed to require that he shall incur the expense necessary in storing the water would often be to destroy his priority, since the expense of such storage would be more than the value of his prior right.

"As opposed to the correlative rights of the common law, whereby all riparian owners on the stream have equal rights, under the law of appropriation the rights of the claimants are unequal. Each has an exclusive right to the extent of his prior appropriation, and appropriations vary great-

ly in the extent of right appropriated. 'A party appropriating water has the *sole and exclusive* right to use the same for the purposes for which it was appropriated.' So long as the water is put to beneficial use, priority alone governs. Full protection is given to the prior appropriator against all later comers. This exclusiveness includes the right to tributaries and sources, even tributary percolating water so far as proof traces it as tributary, and also storm waters that are of annual occurrence. It is held: "The prior appropriator of a particular quantity of water from a stream is entitled to the use of that water, or so much thereof as naturally flows in the stream, unimpaired and unaffected by any subsequent changes which, in the course of nature, may have been wrought. To the extent of his appropriation his supply will be measured by the waters naturally flowing in the stream and its tributaries above the head of his ditch, whether those waters be furnished by the usual rains or snows, by extraordinary rain or snow fall, or by springs or seepage which directly contribute.' It is said, 'The appropriator took the water with the right to have the stream flow as it was wont to flow', which is as strict a statement as the '*aqua currit et debet currere ut currere solebat*' of riparian rights."

1 Wiel on Water Rights (3d Ed.) Section 279.

"But the prior appropriator of the waters of a certain stream has the right to insist that the water continue to flow as it did when he first made the appropriation, as far as the interference by other subsequent appropriators is concerned. "The appropriator took the water with the right to have the stream flow as it was wont to flow' is the language of the law under the Arid Region Doctrine of appropriation, which is as strict a rule as that of the common law of riparian rights,

aqua currit et debet currere ut currere solebat. He has also the right to insist on this flow and that no change be made in it by later comers to his material injury."

2 Kinney on Irrigation (2d Ed.) Sec. 801, p. 1398.

"It is a recognized rule of law that a person who has appropriated water at a certain point in a stream is entitled to have so much of the waters of said stream as he has appropriated flow down to him to the point of his diversion."

Conant, et al., vs. Deep Creek etc. Irr. Co., et al.,
(23 Utah 627), 66 Pac. 188, 190.

"The reasons which constitute the groundwork of the common law upon this subject remain undisturbed. The conditions to which we are called upon to apply them are changed, and not the rules themselves. The maxim, *sic utere tuo ut alienum non laedas*, upon which they are grounded, has lost none of its governing force; on the contrary, it remains now, and in the mining regions of this State, as operative a test of the lawful use of water as at any time in the past, or in any other country. When the law declares that a riparian proprietor is entitled to have the water of a stream flow in its natural channel *ubi currere solebat* without diminution or alteration, it does so because its flow imparts fertility to his land, and because water in its pure state is indispensable for domestic uses. But this rule is not applicable to miners and ditch-owners, simply because the conditions upon which it is founded do not exist in their case. They seek the water for a particular purpose, which is not only compatible with its diversion from its natural channel, but more frequently necessitates such

diversion, and moreover does not require the water in a pure state in order to insure its reasonable and beneficial use. Yet the maxim above mentioned upon which the rule founded is equally as applicable to the ditch-owner and to the miner as to the riparian proprietor, and neither can so use the water as to injure or prejudice the prior rights to a like use by the other. This maxim is one which every riparian proprietor is bound to respect, and it is no less obligatory upon those who use and divert water for mining purposes. So that in all controversies like the present the question to be determined after all is the same as that presented by a like controversy between riparian proprietors, to-wit: has the plaintiff's use and enjoyment of the water *for the purposes for which he claims its use been impaired* by the acts of the defendant? This is purely a question of fact for the jury, and all the law applicable to it is found, as stated by the learned counsel for appellants, in the case of the Phoenix W. Co. v. Fletcher (23 Cal. 483), embraced in the three following maxims: *Qui prior est in tempore, potior est in jure*; *Ubi jus, ibi remedium*; *Sic utere tuo ut alienum non laedas*; and beyond these principles they do not require to be instructed. What diminution in quantity or what deterioration in quality will injuriously affect the use of the water by the plaintiff may be safely left to the determination of the jury, guided only by the foregoing maxims."

Hill vs. Smith, 27 Cal. 476, 482.

"The right to the use of the running water (that is, the right to appropriate water on one's own land) is a corporeal hereditament; but the water when once appropriated includes and comprehends an incorporeal hereditament, to-wit, the right to have the water flow in the stream, without diminution or deterioration, to the head of the ditch or

place of diversion—an easement in the stream, and a servitude upon upper riparian lands.”

Smith vs. Deniff, (24 Mont. 20), 60 Pac. 398, 400.

“The prior appropriator is clearly entitled to protection against acts which materially diminish the quantity of water to which he is entitled, or deteriorate its quality, for the uses to which he wishes to apply it.”

Phoenix Water Co. vs. Fletcher, 23 Cal. 482, 487.

“The right acquired to water by an appropriator under our system is of the same character as that defined by the foregoing authorities as an incorporeal hereditament and easement. The consumer under a ditch possesses a like property. He is an appropriator from the natural stream, through the intermediate agency of the ditch, and has a right to have the quantity of water so appropriated flow in the natural stream, and through the ditch, for his use.”

Wyatt vs. Larimer & Weld Irrigation Co., 18 Colo. 298, (33 Pac. 144, 150).

“To the proposition that appropriators of water out of a natural stream for irrigation purposes, with priorities decreed, are entitled to have the conditions substantially maintained upon the stream as they were when the appropriations were made, and have existed during the continuance and perfection of such appropriations, we cite the following authorities: *Handy Ditch Co. vs. Loudon Irrigating Canal Co.*, 27 Colo. 515, 62 Pac. 847; *Ft. Lyon Canal Co. vs. Chew*, 33 Colo. 392, 81 Pac. 37; *New Cache La Poudre Irrigation Co. vs. Water Supply & Storage Co.*, 29 Colo. 469, 68

Pac. 781; Baer Bros. Land & Cattle Co. v. Wilson, 38 Colo. 101, 88 Pac. 265; Cache La Poudre Reservoir Co. vs. Water Supply & Storage Co. et al., 25 Colo. 161, 53 Pac. 331, 46 L. R. A. 175, 71 Am. St. Rep. 131; and Vogel et al. vs. Minnesota Canal and Reservoir Co. et al., 47 Colo. 534, 107 Pac. 1108."

Comstock vs. Ramsay, 55 Colo. 244, 257, (133 Pac. 1107, 1111.)

"The doctrine that the first appropriator has the superior right, 'where the right to the use of running water is based upon appropriation, and not upon an ownership in the soil' has been recognized and acknowledged by the decisions of this Court in *Lobdell vs. Simpson* (2 Nev. 274), and the *Ophir S. M. Co. vs. Carpenter et al.* (4 Nev. 534).

"The facts of this case do not call in question the correctness of the decision in *Van Sickle vs. Haines* (7 Nev. 249), where the title to the land had been obtained from the government prior to the acts of Congress herein referred to.

"It logically follows from the legal principles we have announced that the plaintiff, as the first appropriator of the waters of Currant Creek, has the right to insist that the water flowing therein shall, during the irrigating season, be subject to his reasonable use and enjoyment to the full extent of his original appropriation and beneficial use."

Barnes vs. Sabron, 10 Nev. 217, 233.

"That a valid appropriation of water from a natural stream constitutes an easement in the stream, and that such easement is an incorporeal hereditament, the appropriation being in perpetuity, cannot well be disputed.' He refers to the discussion of property in water by Washburn in his work on Easements and Servitudes (p. 276),

and Angell on Water Courses (Sec. 141), and adds: 'The right acquired to water by an appropriator under our system is of the same character as that defined by the foregoing authorities as an incorporeal hereditament and easement. The consumer under a ditch possesses a like property. He is an appropriator from the natural stream, through the intermediate agency of the ditch, and has the right to have the quantity of water so appropriated flow in the natural stream, and through the ditch for his use.' "

Willey vs. Decker, 11 Wyo. 496, 544.

The Act of Congress of July 26, 1866, contains this language:

"Whenever, by priority of possession, rights to the use of water for mining, agricultural, manufacturing, or other purposes, have vested and accrued, and the same are recognized and acknowledged by the local customs, laws, and the decisions of courts, the possessors and owners of such vested rights shall be maintained and protected in the same; and the right of way for the construction of ditches and canals for the purposes herein specified is acknowledged and confirmed."

Revised Statutes, Sec. 2339.

United States vs. Rio Grande Dam etc. Co.,
174 U. S. 704.

The Rights of the Prior Appropriator are Especially Active in Time of Water Deficiency, yet Colorado will Take More Water at such Times.

As we have indicated, the plan proposed by Colorado in the argument here leads only into error. Colo-

rado proposes that the so-called normal flow of the stream shall be ascertained, and that from this so-called normal flow shall be deducted for use in Wyoming such an amount of water in gross as shall equal the Wyoming appropriations that are prior to the inception of the Colorado enterprise, and that the remainder thus ascertained shall be held to be the amount of water which Colorado may divert from the stream. This is called by Colorado the "surplus" or unappropriated water.

Any study of the evidence discloses that this so-called normal flow is ascertained by adding together the supposed annual stream flow of the various years and dividing the result by the number of years taken.

As we have seen in this case, it has the additional error of being estimated not so much by study of the actual measurements of the Laramie River as by theoretical amounts of water obtained from a supposition (denied by the evidence) that a certain number of square miles of arid land in Wyoming might yield a certain number of acre feet of water, and also by a supposition that the amount of water flowing in the Laramie River can be ascertained by measuring the Poudre, an entirely different stream, flowing in a different direction, having its own water and its own peculiar features.

And besides there is error in that no allowance is made for the losses in the stream from evaporation and seepage. As stated even by the witnesses for the defendants:

"Our plains streams are of a very different type from streams in eastern states. With stream running through humid country, at least in eastern United States and most humid countries, streams steadily increase. Country through which it runs

is contributing to stream. That is not case of our plains streams—after they leave mountains. We cannot say that these plains streams are actually draining the country in sense of deriving supply of water from the country most of time. These streams are naturally decreasing instead of increasing as they go away from the mountains. They have always done so from earliest period of discovery and, inasmuch as these conditions have existed for a long period, undoubtedly it has always been the case.”

(Testimony of Mr. Carpenter, Record Vol. 2, pp. 3006, 3007.)

But the error we desire to point out here is still a different one. If the actual flow in the Laramie River by actual measurements were ascertained to be in accordance with the testimony of Mr. Field, the Colorado expert on that question, still the plan of settling the rights between the parties here by taking the average flow of the stream as suggested, calling that the “normal flow” and giving Colorado the right to take *first* what they choose to term the “surplus” of the water—that is to say the difference between this so-called normal flow and the amount required for Wyoming—is to deprive Wyoming irrigators, in practically every season, of the water to which they are entitled. This is easily demonstrated.

This so-called normal flow has in it as a large element the various floods in the stream, and it would be manifest without evidence on the subject that these floods are not available for irrigation. On this question Mr. Carpenter, one of the leading witnesses for the State of Colorado, testifies as follows:

“With regard to financial practicability of construction of reservoirs on Poudre River capable of conserving extraordinary floods, will state that they call for an expenditure that could be utilized only occasionally. It would be similar to financial proposition of people in Florida preparing to heat their houses in the same manner as those in the northern part of the United States.”

Record Vol. 2, Star Page 3946.

On the same subject Mr. Wortham, another one of the Colorado experts, testified as follows:

The very great floods on that watershed we cannot consider because we cannot construct works to take care of them.

Record Vol. 1, Star Pages 2120 and 2121.

“No witness testified to the contrary, and indeed this seems self-evident. Moreover, counting the flood waters as a part of the normal flow, and permitting Colorado *first* to take out all of the normal flow, save the amount estimated to be necessary for Wyoming, necessarily puts the whole of such flood waters into that part of the water apportioned to Wyoming. Colorado is at the head of the stream, and whatever she takes must be taken first. It in effect gives her a priority on the stream for the full amount allowed to her. It is, therefore, a mathematical certainty that the burden of the variations from day to day, and year to year, in the stream flow would fall upon Wyoming. Wyoming, then, would be apportioned as a part of her necessary amount the whole of the floods. And this notwithstanding that it would be as unreasonable to construct works to take care of such floods as it would

be to build great furnaces for heating houses in Florida as large and efficient as are required to heat houses in Boston. And this would also be in the teeth of that principle of law in the irrigation states which requires the newcomer to the stream himself to provide ways to catch surplus waters, and compels him to permit the stream to flow as it was wont to flow to the extent necessary to fully supply prior appropriators. It will be remembered that the concededly prior appropriators above the point where the Little Laramie turns its waters into the Laramie River are irrigating many thousand acres of land, and as it stands with no diminution such as is threatened they have insufficient water in many of the years. This is shown by the evidence as to irrigation previously cited in this brief. It will also be remembered that these concededly prior appropriators have no reservoirs, and though beneficially using the water, do not get returns to pay for the construction of reservoirs. On this question Mr. Carpenter, testifying for the State of Colorado, says this:

“In my opinion hay is the economical crop raised upon the Laramie Plains, this being due to the soil and climatic conditions and not to any lack of enterprise on the part of the inhabitants. I presume that the raising of hay produces some net return, but the large size of ranches would indicate that the return is not very great. While some farmers favorably located and favored with some exceptional season might procure a net return and perhaps a large net return from some special crop, on the whole no other crop would now pay or could be looked to in the future as a paying crop. *I do not believe that the returns from the growth of hay would justify any greater investment than the present investment, and I should say that the present investment is now larger than the*

hay return would warrant. The only practical method of irrigating hay land in that region is through flood irrigation, and taking present conditions as a whole, the methods of irrigation now in use on the Laramie Plains are the natural methods."

Record, Vol. 2, Star Page 2984.
(The italics are ours.)

Along the same line as the question of the flood flow is the fact that the flow of the stream is not regular or constant, but greatly fluctuates not only from year to year, but from month to month, and even from day to day. This is shown by all the evidence. But an inspection of the table prepared and introduced in evidence by Colorado marked Exhibit 128, Star page 3440, sufficiently shows these irregularities. The Colorado plan of figuring up as the normal flow of the stream the average annual flow takes no account whatever of these irregularities and variations, but assumes, contrary to the fact, that the flow is constant, and then fixing a certain figure as this assumed normal, constant flow, asks the Court to permit Colorado to deduct from this assumed constant flow a certain amount of water, which Colorado is pleased to term a "surplus", and this certain amount of water is to be taken by Colorado, day by day, month by month, and year by year, at the times when she can take it, amounting in the aggregate, according to their figures, to 70,000 acre feet per annum, in addition to the 20,000 acre feet every year diverted by the Skyline Ditch. The method that would be used in taking this water on the part of Colorado is disclosed by the record. For example, the first volume of the brief heretofore filed in this cause by Colorado, page 17, lines 31 to 36,

has this solemn statement by those representing Colorado as to her purpose and intention:

"It will, of course, be recognized that any test of the amount of water flowing in the Laramie River must be based upon what appears to be the normal flow rather than upon the flow for any particular year, *inasmuch as the proposed diversion which is sought to be restrained will, unless enjoined, constitute a continuing diversion.*"

(The italics are ours.)

The matter is further illustrated by the testimony. Mr. Wallace Link, a witness on behalf of the defendant Colorado, testifies that,

"In the spring the Skyline Ditch is first opened at what they called Three Quarter Creek. They then open up ditch above that point by shoveling for the entire length. They cut a trench through the snow in order to get the water through to cut the snow with water, and they continue that on to the head of the ditch *and it is very often June 15 before we get the water running.*"

Record, Vol. 1, Star Page 2021. (Italics ours.)

Mr. Field, another witness for the State of Colorado, throws further light upon this same purpose. He says:

"In diversion of water from one watershed to another, there is a greater percentage of water supply furnished by district from which water is taken during low year than during high year, that is, percentage of water diverted from Laramie River over to Poudre River during year of low flow is larger in comparison with flow of that year than water diverted in high year is to water flow during that year. For example, amount of water diverted through Skyline Ditch would be more

clearly constant from year to year than would average flow in Laramie River from year to year. Reason is that during year of low flow on Laramie River there would probably be a year of low flow on Poudre, which would create greater demand on Poudre for water and probably greater effort would be made to bring more water during low year. On other hand in high year, it would probably not be so necessary and the same effort would not be made."

Record, Vol. 2, Star Pages 3401 and 3402.

Another witness for the defendants in testifying as to the intentions of the Colorado enterprise in the matter of taking water from the Laramie River, testified as follows:

"The really dependable water supply of the District will come from the Laramie River, the amount secured from the Poudre River fluctuating greatly and being used to augment the supply from the Laramie. There will be years when the supply from the Poudre River and its tributaries will be practically nothing. Our plans contemplate taking all the water that it is possible for us to take from the Laramie River each year. It is possible to get only a certain amount from that river, and I do not believe that we can absolutely depend on more than half the required amount from the Laramie River. The very great floods on that watershed we cannot consider because we cannot construct works to take care of them. It is our plan and expectation to take all the water we can get from the Laramie River each year irrespective of the amount of water in that river from year to year."

(Testimony of John R. Wortham, the Engineer for the defendant The Greeley-Poudre Irrigation District, Rec. Vol. 1, pp. 2120 and 2121).

In other words, the threat of Colorado is to take a constant amount of 70,000 acre feet per annum in addition to the 20,000 acre feet each year diverted by the Skyline under an older diversion, and to take this largely during the irrigation season, and to take it with even more certainty when the flow in the Laramie River in the irrigation season is least.

Turning again to the table, Exhibit 128, introduced by Colorado, Record Volume 2, Star Page 3440, it will be found that in many of the years the entire flow of the Laramie River for the months of July, August and September would not equal the 70,000 acre feet which Colorado is threatening to divert.

The authorities are very clear as to the rights of the prior appropriator in times of water deficiency.

"In the case at bar the waters of Antoine Creek were appropriated and being used at the time respondents settled and filed on their land, and were not subject to a riparian right to use the waters for irrigation, as against the first appropriator who has perfected his title and was with reasonable diligence extending the area of cultivation on his lands riparian to the stream. 'It is an elementary principle of the law of appropriation of water for irrigation that the first appropriator is entitled to the quantity of water appropriated by him, to the exclusion of subsequent claimants by appropriation or riparian ownership.' *Longmire vs. Smith, supra.*

"It is unfortunate that the flood waters of Antoine Creek cannot be conserved for the use of all, but, so long as our laws measure the rights of the appropriator of water by the necessities of the dry season, the first in time must be held to be the first in right. The just purpose of the trial judge to apportion the waters cannot be sustained in the light of the evidence showing that there is

no excess of water running to, or waste by, the appellants."

Avery vs. Johnson, 59 Wash. 332, (109 Pac. 1028).

"The testimony in the case, the findings of the jury, as well as the findings of the court, clearly determined that Henry Huning had the first right to the amount of water decreed to him; and the court, in its judgment, recognized that fact, and decreed that he 'had, and should have and enjoy, the first right to' that amount of water for the purpose of irrigating that acreage of land, after which it was error to decree that the Scott Bros. were on a parity with him, and that he enjoyed no priority as to them.

"It is assigned as further error that the court found in its decree that the defendants R. and J. Scott and the plaintiff, Henry Huning, have no priority of right to the use of waters in said creek over the other defendants, and in finding, contrary to the evidence and the verdict of the jury, that at all times there had been sufficient water in the creek for plaintiff and defendants Scott.

"The first error complained of in this assignment is incorrectly stated. The decree of the court did not decide that defendants R. and J. Scott and plaintiff, Henry Huning, had no priority of right as against the other defendants, but that they had no priority as against each other, thus putting them on a parity in the rights to use the water.

"The second assignment is incorrectly stated, as no such decree is contained in the judgment, although the court did find among the findings of fact that there had at all times up to that date been sufficient water in the creek for plaintiff and defendants. That fact, however, is immaterial; and the court ignores it in the decree quoted above,

wherein it provides that, in case of scarcity or failure in the flow of the creek, Huning and the Scotts should prorate the amount of water the creek might furnish. When the relative priority in which the rights exist is determined, it is immaterial whether or not the stream furnishes a sufficiency for all. The fact that the stream had before the date of trial furnished a sufficiency for all the parties litigant, or for a certain number of the parties litigant, would be no assurance that it would continue to furnish such sufficiency; and it is in order to provide for the proper distribution of the amount that may be furnished that the relative priority of the several rights enjoyed by the different parties are determined by the court."

Huning vs. Porter, 6 Ariz. 171, (54 Pac. 584).

"In times of natural or other deficiency, also, unless otherwise provided by statute, the prior appropriator may still claim his full amount; the loss must fall on the later appropriators. In a case enforcing an appropriation to the extent of seventy-five per cent. of the whole stream, it is said: 'It further appears from this defense that at certain seasons of the year the flow of the stream will only supply the needs of the defendants. It appears, therefore, from the averments of this defense, that the defendants have a prior right to the use of the water from the natural stream, and, when low, to the entire volume thereof, and the demurrer thereto should have been overruled.' This is true even where (indeed, especially where) unusual scarcity or dry season causes the deficiency."

1 *Wiel on Water Rights*, Sec. 301.

(The case from which Mr. Wiel makes the quotation indicated last above is the case of *Wellington vs. Beck*, 30 Colo. 409.)

The principles above enunciated as to the relative rights of appropriators are uniformly and universally adopted by the irrigation states. In accordance with these principles Wyoming, during the irrigation season of each year, is entitled to the flow of the stream as it may at the time naturally flow up to the amount necessary to supply the Wyoming appropriations that are prior in time to the inception of the Colorado attempt at diversion. All of the evidence, without contradiction, shows that in practically every year during the irrigation season the entire stream flow is not only taken by the Wyoming prior appropriators, but is necessary for the purposes of irrigating their lands, and in many of the years—dry years as they are called—the water in the stream is insufficient for the concededly prior Wyoming appropriations. If the water were being diverted by Colorado into reservoirs within the watershed, then the objection to such diversion would be less serious unless in the diversion there was such loss as to work injury to the prior Wyoming appropriators. If it were diverted within the watershed, it would not be difficult under the Wyoming system, or indeed under any system, to require the owners of the reservoir in the watershed into which the water is diverted to turn it back into the stream for the use of the prior appropriators. This was done in the case of Lake Hattie in the year 1913. (Record Vol. 1, page 1288.) But in the case at bar, Colorado's diversion will take the water to a place where it will be impossible to return it to the stream, and therefore in every year when the water in the stream may turn out to be less than the amount of the prior Wyoming appropriations plus the Colorado diversion irreparable wrong will be done to the Wyoming appropriators, and in most of

the years the wrong will go to the extent of entirely depriving many of the Wyoming appropriators of water. But in not more than one year in seven could any substantial fraction of seventy thousand acre feet of water be taken during the irrigating season without depriving the Wyoming prior appropriators of necessary water.

If there is any way to ascertain in advance when, if ever, the water in the stream during the irrigation season will be more than enough for the prior Wyoming appropriators, and therefore will leave a surplus for the Colorado appropriation, we have no knowledge of it. The rain, like the wind, comes when it will. The heat is more or less each day during the summer, and therefore melts and brings from the mountains in the shape of water more or less of the snow just as an overruling Providence may direct. But no man knows what any day will bring, save that we do know that as a rule for all of the years during which records have been taken the amount of water furnished by the rains and the melting snows in the Laramie River has all been required by the Wyoming concededly prior appropriations, and the two or three years in the last twenty in which there has been a surplus have been unusual and it was impossible to anticipate them.

We submit, therefore, that if the State line between Colorado and Wyoming leaves the rights of appropriators as if all were in the same State, it would be clear that the Wyoming appropriators have the right to the water during practically every year; that the years when they will not need it all cannot be ascertained in advance, and that the diversion as intended by Colorado because of the character and place to which it will take the water will in most years cause

such injury and damage as entitle the Wyoming appropriators to injunctive relief.

Effect of State Lines upon Rights of Appropriators.

The question of the effect of State lines upon the rights of appropriators in different States has been before the courts of the arid region in a number of cases, and so far as we have been able to find has always been decided in the same way. The universal holding is that priority of appropriation gives priority of right on inter-state streams the same as on streams wholly within one State.

“We had occasion recently to consider whether the right of a citizen to use water within the State for irrigation of lands is granted by the State or general government, and we were unable to discover any principle of that kind. *Mohl vs. Laramar Canal Co.* (C. C.) 128 Fed. 776. The idea of an exclusive right in the people of a State to divert its running waters to the injury of riparian owners in another State must be equally untenable. Indeed, the doctrine of riparian ownership and use of running water is not subject to political boundaries. Between hostile States the doctrine may not be recognized, but any such repudiation would be simple *vis major*. Between States dwelling in peace and concord, as are the States of our Union, the equal right of the inhabitants of each State to the waters of intersecting streams must always be recognized. Water is essential to human life in the same degree as light and air, and no bounds can be set to its use for supplying the natural wants of men other than the mighty barriers which the Creator has made on the face of the earth.

* * * * *

“It is enough that complainants and their

grantors were in the possession and enjoyment of the water a long time prior to respondents' diversion, and therefore the first appropriators under the law of the land as understood in Wyoming and Colorado."

Hoge vs. Eaton, et al., 135 Fed. 411, 414.

The above case was decided by the District Court of the United States for Colorado. The Judge who sat was on the Supreme Bench of Colorado before the admission of that State into the Union, and became United States District Judge upon the admission. The case was reversed by the Court of Appeals (*Eaton vs. Hoge*, 141 Fed. 64) but the reversal was upon another point and should not weaken the case as authority upon the point here under discussion.

"It would seem, upon both reason and authority, that the courts of this State, in ascertaining, decreeing, and protecting property rights in water appropriations within the jurisdiction of the State, may at the same time and for that purpose inquire into and determine rights and priorities on the same stream that are located and situated beyond the State line, in order to fairly and finally judicially determine the relative rights of the parties and decree the extent of the title and right of possession of the thing or subject-matter within this jurisdiction. This proposition ought to be accorded a special recognition and application by the courts in water and irrigation litigation. Streams rise in one State and flow into another, irrespective of boundary lines, and still the rules and doctrines of priority of appropriation and use are the same in most of the arid States. This is particularly true with respect to this case. Here the riparian doctrine of the common law has been abrogated in both Idaho and Wyoming, and the

rule of 'first in time is first in right' is recognized and enforced in both States. *Drake vs. Earhart*, 2 Idaho, 750, 23 Pac. 541; *Moyer vs. Preston*, 6 Wyo. 308, 44 Pac. 845, 71 Am. St. Rep. 914; *Farm Investment Co. vs. Carpenter*, 9 Wyo. 110, 61 Pac. 258, 50 L. R. A. 747, 87 Am. St. Rep. 918; *Willey vs. Decker*, *supra*. The relative rights, therefore, of appropriators of the water of an interstate stream are the same, whether the appropriations are all in the same State, or some in one State and the balance in another State. This proposition is accentuated in a case like this, where the court not only has jurisdiction of the *res* or subject-matter, but also obtains jurisdiction of the person of the defendant. In the case at bar the diversion by the defendants, being the act that causes the injury, takes place in Wyoming; but the injury itself that flows from the wrongful act takes place in this State. It has long been recognized as a general rule that, where an act is committed in one jurisdiction that occasions injury or damage in another jurisdiction, the injured person may elect to bring his action in either jurisdiction."

Taylor vs. Hulett, 15 Ida. 265.

"It is a recognized rule of law that a person who has appropriated water at a certain point in a stream is entitled to have so much of the waters of said stream as he has appropriated flow down to him to the point of his diversion; and if the settlers higher up on the stream, in another State, whose appropriations are subsequent, divert any of the waters of the stream which have been so first appropriated, then the courts of the latter State will protect the first settler in his rights. *Howell vs. Johnson* (C. C.) 89 Fed. 556. The Idaho courts, therefore, have ample and complete jurisdiction to protect the rights of respondents to

have the waters which they have appropriated, and which they divert in Utah, flow through the channel of the stream, and to limit and determine the rights of the Idaho appropriators with reference thereto; and by the decree entered in the suit in the district court of Oneida County, Idaho, such rights were fully protected, and may be enforced by proper proceedings in that court."

Conant vs. Deep Creek etc. Co., 23 Utah 627.

"This court has stated that the statutory and constitutional declarations seemed rather to declare and confirm a principle already existing than to announce a new one, for the reason that under the rule permitting the acquisition of rights by appropriation the waters became perforce *publici juris*.

* * * * *

"The obvious meaning and effect of the expression that the water is the property of the public is that it is the property of the people as a whole. Whatever title, therefore, is held in and to such water resides in the sovereign as representative of the people. The public ownership, if any distinction is material, is rather that of sovereign than proprietor. (*Farm Inv. Co. vs. Carpenter, supra.*) That ownership however, is subject to a particular trust or use, specially defined in the statutes and in the constitution. And that trust or use, in the absence of statute, is just as prominently and intrinsically attached to such public ownership. The waters are held subject to appropriation for beneficial uses. And we have endeavored to show that the right of appropriation is not, in the absence of statute at least, restricted locally nor by state lines. The trust is to be considered as co-extensive with the right on which it rests. Upon the general principles governing such appropriation, we perceive no reason, if the same be not

prohibited by statute, why the owner of lands in another State may not at a point in this State lawfully divert the water of a stream flowing in both States and conduct such water upon his lands for their irrigation, and thereby secure a valid water right. There is nothing in the essential character of the trust or use for which the waters are held by the public that, in our judgment, prevents the acquirement of a water right on such stream in that manner, provided the appropriator is able to comply with the statutory provisions regulating and controlling the appropriation and diversion of the public waters.

“Moreover, a desirable comity between the States within whose respective dominions the same stream may flow, and a due regard by each for the rights of the residents and land owners in the adjoining State, would seem to require a liberal view of this matter. In an interesting case in Wisconsin, where the question arose whether the State could constitutionally sell the ice formed upon public waters, it was held that where the term ‘people of the State’ is used to designate the beneficiaries of the trust in navigable waters, all the people who may choose to enjoy the same within the State are referred to, whether citizens of the State or persons who came within its territory, for the purpose of enjoying such public rights. (*Rossmiller vs. State*, 114 Wis., 169.)”

Willey, et al., vs. Decker, et al., 11 Wyo. 496, 533.

Farm Investment Co., vs. Carpenter, 9 Wyo. 110.

The case of *Howell vs. Johnson* (C. C. Mont.) 89 Fed. 556, involved a question between Wyoming lands and Montana lands, each party claiming appropriations from a non-navigable interstate stream.

The contention was made that the Wyoming citizens owning the Wyoming lands could not maintain the action in Montana because the State of Montana owned the waters in that State. This contention was overruled by the Court, which held that the rights must be determined without reference to State lines.

In the case of *Anderson vs. Bassman*, (C. C. Cal.) 140 Fed. 14, the same question arose between landowners in California and landowners in Nevada, each claiming as an appropriator of water from the same non-navigable interstate stream. The Court quotes from the cases of *Howell vs. Johnson* and *Hoge vs. Eaton*, *supra*, and endorses the views expressed in those cases, saying:

“This court is in entire accord with the views of these two Courts upon this question.”

In the case of *Morris vs. Bean*, (C. C. Mont.) 123 Fed. 618, the Court was considering the relative rights of Wyoming and Montana appropriators from the same interstate stream, and held that the prior appropriator is protected in his right “as against subsequent appropriators although the latter withdraw the water within the limits of a different State.”

The final hearing of the case was in the same Circuit Court, but before a different Judge.

The contention was again made at the final hearing that an appropriator in Wyoming could not in a court in Montana assert rights as against an appropriator in Montana. The Court overruled this contention, announcing, among other things, the following:

“In the early stages of this suit Judge Knowles refused to sustain the views thus presented by

the defendants. Whether the ruling made is the law of this case does not become material, because the reasons which actuated him in his decision are not only based upon sound principles, but are sustainable upon authority. No case has been cited where the distinction sought to be drawn has prevailed in the courts, but, on the contrary, apparently, wherever the question has arisen the holding has been the other way."

Morris vs. Bean, 146 Fed. 423.

The case last above cited went to the United States Circuit Court of Appeals for the Ninth Circuit and was there affirmed, the Court saying, among other things:

"The right to divert or appropriate for a useful purpose the waters of a non-navigable stream is recognized by the laws of Montana and Wyoming, and by sections 2339 and 2340 of the Revised Statutes (U. S. Comp. St. 1901, p. 1437); and the broad principle which underlies the relative rights of appropriators from the same stream is, that whoever is first in time is first in right, and the fact that the stream, the waters of which are appropriated, is interstate and non-navigable, does not affect the rule."

Bean vs. Morris, 159 Fed. 651, 655.

A similar question arose in the case of *Miller, et al., vs. Rickey, et al.*, (C. C.) 127 Fed. 573. On appeal, the Circuit Court of Appeals for the Ninth Circuit used the following language:

"The water in the stream, which has a propensity to seek its level, and will continue in its current to the sea, is in strict reality the veritable thing in controversy. It knows not imaginary

State or county lines, and is a thing in which no man has a property until captured to be applied to a beneficial use. The right of appropriation is recognized in law, which means the right of diversion and use. It is the right, not to any specific water, but to some definite quantity of that which may at the time be running in the stream. So the right acquired by an appropriation includes the right to have the water flow in the stream to the point of diversion. The fact of a State line intersecting the stream does not, within itself, impinge upon the right. In other words, the appropriation may still be acquired although the stream is interstate and not local to one State. nor will the mere fact that the stream has its source in one State authorize a diversion of all the water thereof as against an earlier and prior appropriator across the line in another State. On the contrary, one who has acquired a right to the water of a stream by prior appropriation, in accordance with the laws of the State where made, is protected in such right as against subsequent appropriators, though the latter withdrew the water within the limits of a different State."

Rickey Land & Cattle Co., vs. Miller, et al.,
(C. C. A. 9th Cir.) 152 Fed. 11, 17.

The question has been somewhat involved in several cases before this court, but perhaps not clearly or definitely decided. In one case this Court uses the following language:

"It is conceivable, to be sure, that the decisions of this Court may determine that the States have rights as against each other *in invitum* in streams that flow through the land of both. *Kansas vs. Colorado*, 206 U. S. 46, 84. *Missouri vs. Illinois*, 200 U. S. 496, 519, 520. These rights may vary according to the system of law required by

natural conditions. They may be more or less analogous to common law rights between upper and lower proprietors, where irrigation is not necessary, as in most of the older States. See *New York vs. Pine*, 185 U. S. 93, 96. There may be some, perhaps limited, right of appropriation in the upper State, at least in the watershed of the stream, where irrigation is the condition of using the land. See *Kansas vs. Colorado*, 206 U. S. 46, 100-104, 117. But whatever this Court may decide, if a private owner should derive advantage from such a decision it would not be in his own right, but by reason of and subordinate to the rights of his State, and those rights, the petitioner insists, can, or at least should be determined only in a suit brought by the State itself.

"We are of opinion that the petitioner fails to establish the conclusion for which it contends. The alleged rights of Miller and Lux involve a relation between parcels of land that cannot be brought within the same jurisdiction. This relation depends as well upon the permission of the laws of Nevada as upon the compulsion of the laws of California. It is true that the acts necessary to enforce it must be done in California and require the assent of that State so far as this Court does not decide that they may be demanded as a consequence of whatever right, if any, it may attribute to Nevada. But, leaving the latter possibility on one side, if California recognizes private rights that cross the border line, the analogies are in favor of allowing them to be enforced within the jurisdiction of either party to the joint arrangement."

Rickey Land & Cattle Co. vs. Miller & Lux,
218 U. S. 258.

And in still another case this Court uses this language:

"We know no reason to doubt, and we assume, that, subject to such rights as the lower State might be decided by this Court to have, and to vested private rights, if any, protected by the Constitution, the State of Montana has full legislative power over Sage Creek while it flows within that State. *Kansas vs. Colorado*, 206 U. S. 46, 93-95. Therefore, subject to the same qualifications, we assume that the concurrence of the laws of Montana with those of Wyoming is necessary to create easements, or such private rights and obligations as are in dispute, across their common boundary line. *Missouri vs. Illinois*, 200 U. S. 496, 521. *Rickey Land & Cattle Co. vs. Miller & Lux*, 218 U. S. 258, 260. But with regard to such rights as came into question in the older States, we believe it always was assumed, in the absence of legislation to the contrary, that the States were willing to ignore boundaries, and allowed the same rights to be acquired from outside the State that could be acquired from within. *Manville Co. vs. Worcester*, 138 Massachusetts, 89. *Thayer vs. Brooks*, 17 Ohio, 489. *Slack vs. Walcott*, 3 Mason, 508, 516. *Stillman vs. White Rock Manuf. Co.*, 3 Woodb. & M. 538. *Rundle vs. Delaware & Raritan Canal Co.*, 1 Wall. Jr. 275, 14 How. 80. *Foot vs. Edwards*, 2 Blatchf. 310. See *Wooster vs. Great Falls Manuf. Co.*, 39 Maine, 247, 253, *Armendiaz vs. Stillman*, 54 Texas, 623; *State vs. Lord*, 16 N. H. 357. *Howard vs. Ingersoll*, 17 Alabama, 780, 793. There is even stronger reason for the same assumption here. Montana cannot be presumed to be intent on suicide, and there are as many if not more cases in which it would lose as there are in which it would gain, if it invoked a trial of strength with its neighbors. In this very instance, as has been said, the Big Horn, after it has received the waters of Sage Creek, flows back into that State. But this is the least consideration. The doctrine of appro-

appropriation has prevailed in these regions probably from the first moment they knew of any law, and has continued since they became territory of the United States. It was recognized by the statutes of the United States, while Montana and Wyoming were such territory, Rev. Stat., Secs. 2339, 2340, p. 429, Act of March 3, 1877, c. 107, 19 Stat. 377, and is recognized by both States now. Before the State lines were drawn of course the principle prevailed between the lands that were destined to be thus artificially divided. Indeed, Morris had made his appropriation before either State was admitted to the Union. The only reasonable presumption is that the States upon their incorporation continued the system that had prevailed theretofore, and made no changes other than those necessarily implied or expressed. See *Willey vs. Decker*, 11 Wyoming, 496; *Smith vs. Deniff*, 24 Montana, 20."

Bean vs. Morris, 221 U. S. 485.

"The rights of the respective States and of the citizens thereof in and to the use of waters of an interstate stream depend somewhat upon the laws of those States governing waters. If the common law is the only law of waters governing two adjoining States through which an interstate river flows, or if both States have adopted the Arid Region Doctrine of appropriation, the right to the use of the waters of an interstate stream is not affected by the boundary line which divides the States. But where there is conflict of the laws relative to the subject of water, that is to say, the lower State upon the stream having only the common law of riparian rights, and the upper State having adopted the Arid Region Doctrine of appropriation, the rule is different, and will be discussed in a subsequent section of this chapter.

"The rights as between appropriators of the

waters of an interstate stream are not affected by the boundary line between the two States. As was said by a Wyoming case: 'The separation of lands capable of irrigation from such streams is of no consequence'. As was said in a recent Idaho case, 'The relative rights, therefore, of appropriators of waters of an interstate stream are the same, whether the appropriations are all in the same State or some in one State and the balance in another State.' 'The right to divert running waters for irrigating lands in an arid country is not controlled or affected by political divisions. It is the same in all States through which the streams may pass.'

3 Kinney on Irrigation, (2d Ed.) Sec. 1225, page 2216.

Both Colorado and Wyoming are at the crest of the continent. They have both adopted to its broadest extent the doctrine of prior appropriation. It may be that this doctrine is not as entirely antagonistic to the doctrine of riparian rights as some text writers and some of the Courts near the crest of the continent seem to indicate. Of this we shall have more to say later. But whether it can stand alongside the doctrine of riparian rights in the same jurisdiction, (as it actually does in a majority of the irrigation States), or is so antagonistic as to exclude the latter, we believe that for the purposes of the decision of this case the doctrine of prior appropriation must furnish the rule. The people of both States by their constitutions have declared that doctrine to be the just and reasonable doctrine throughout the area involved in this litigation. The people by their representatives assembled in the legislatures have reiterated the same doctrine and provided numerous rules and regulations for carrying it

out in both States. The courts in both States have given their adherence, even to the extent of saying that the rule was in force in each State long prior to any constitutions or statutes on the subject. Therefore, so far as the parties here are concerned, that rule and doctrine must be held reasonable and just, and neither State could complain of its use in settling the controversy here.

Applying that doctrine and rule here, the appropriations in Wyoming that were by all the evidence prior and superior to the commencement and initiation of the threatened diversion here complained of, so use the waters of the stream and so need those waters as to make it certain that the threatened diversion cannot fail to work in most years, indeed in nearly all years, great and irreparable injury and damage to Wyoming and to the Wyoming appropriators. And as the evidence distinctly shows, these Wyoming appropriators and the communities and industries supported through their appropriations not only constitute a large share of the wealth and prosperity of the plaintiff State, but also furnish a large share of its taxation resources.

B

Does any Rule of Equitable Division of the Waters Justify the Threatened Diversion even though Injurious to Wyoming?

We might repeat here that the facts in the case at bar would permit and even justify a decision of this cause on the general principles of prior appropriation without deciding anything as to the rights of different

States whose differing climates have caused the adoption of rules and principles differing in the one State from those in the other.

We realize that the doctrine of prior appropriation is not recognized in all the States, and that if general principles are to be here decided such as shall apply to all interstate streams, and boundaries shall be here fixed to the rights of differing States in interstate streams applicable to all circumstances, in reaching such universal principles and conclusions there are many and serious problems entirely outside of the mere appropriation problems which we have so far discussed.

Wyoming and Colorado are at the crest of the continent. Waters falling within the State of Colorado flow out of that State, some of them to the Gulf of California, and some of them to the Gulf of Mexico; and it would be entirely possible within the State of Colorado to construct diverting systems which would take waters naturally tributary to the flow into the Gulf of Mexico and turn them into the streams emptying into the Gulf of California. Of course the States through which the waters would run in case of such diversion would be entirely different and separate from the States into and through which those waters naturally run. The same situation exists in Wyoming, even to a greater degree. Some of the waters of Wyoming flow naturally into the Missouri and Mississippi River systems, and thence into the Gulf of Mexico. Others of the waters of Wyoming flow into the Green River and the Colorado River and into the Gulf of California. Still others of the waters of Wyoming flow into the Columbia River and thus into the Pacific. No two of these systems naturally carry the waters through the same States after leaving Wyoming. Every State

watered by each system in any degree is an entirely different State from any State watered by any other of the systems. It would be entirely possible in Wyoming to construct diversion works such as would turn large bodies of the water from either one of the systems into the other. Each State receiving water from Wyoming has great need for the water. In the case of at least two of the systems the water from Wyoming flows into States and through States which refuse to recognize rights by prior appropriation as superior to riparian rights. In some cases the needed flow from Wyoming is into States which fully recognize the doctrine of prior appropriation. We recognize that Wyoming, if allowed to divert the waters from one stream and one system to another, could inflict vast injury upon sister States. It may not be amiss, therefore, for this Court to consider at least in the decision of this case, the general question of the effect of its decision on the problems which would naturally grow out of the attempt upon the part of Wyoming or Colorado to use within their own boundaries methods of diverting water such as will become injurious to sister States.

The streams rising in Colorado and Wyoming but illustrate the very general character of the questions involved if rules are sought applicable universally to rights on interstate streams. The stream in the case at bar rises in Colorado and flows into and through Wyoming and thence into Nebraska and on down into other States where the riparian rights doctrine pure and simple is adopted. The rights of Wyoming might easily be ground between the upper and nether millstone if Colorado should be permitted to take a large share of the water on some general principle of prior appropriation, while at the same time Nebraska and

lower States could require Wyoming to permit the waters to flow on down into the lower States practically undiminished in quantity.

The situation for Wyoming will be still worse—far worse—if Colorado shall be permitted to ignore the Wyoming rights acquired by prior appropriation, and also at the same time all riparian rights by taking waters for use not only within the watershed but also without, while leaving Nebraska and lower States the power to compel Wyoming to yield to Nebraska riparian rights.

In a case affecting rights in earth and air tried here, this Court said:

“The case has been argued largely as if it were one between two private parties; but it is not. The very elements that would be relied upon in a suit between fellow-citizens as a ground for equitable relief are wanting here. The State owns very little of the territory alleged to be affected, and the damage to it capable of estimate in money, possibly, at least, is small. This is a suit by a State for an injury to it in its capacity of quasi-sovereign. In that capacity the State has an interest independent of and behind the titles of its citizens, in all the earth and air within its domain. It has the last word as to whether its mountains shall be stripped of their forests and its inhabitants shall breathe pure air. It might have to pay individuals before it could utter that word, but with it remains the final power. The alleged damage to the State as a private owner is merely a makeweight, and we may lay on one side the dispute as to whether the destruction of forests has led to the gullyng of its roads.”

Georgia vs. Tennessee Copper Co., 206 U. S. 230, 237.

The case last above was cited and the principle applied by this Court to rights in water in the case of *Kansas vs. Colorado*, 206 U. S. 46, 99, where this Court said:

“It is the State of Kansas which involves the action of this Court, charging that through the action of Colorado a large portion of its territory is threatened with disaster. In this respect it is in no manner evading the provisions of the Eleventh Amendment to the Federal Constitution. It is not acting directly and solely for the benefit of any individual citizen to protect his riparian rights. *Beyond its property rights it has an interest as a State in this large tract of land bordering on the Arkansas River.* Its prosperity affects the general welfare of the State. *The controversy rises, therefore, above a mere question of local private right and involves a matter of state interest, and must be considered from that standpoint.*”

The exact nature and limits of the rights of the State as distinguished from the rights of private parties is not disclosed in either of the cases last above.

Certain indications of those limits are disclosed in the case of *Kansas vs. Colorado* where this Court said:

“It is obvious that if the depletion of the waters of the river by Colorado continues to increase there will come a time when Kansas may justly say that there is no longer an equitable division of benefits and may rightfully call for relief against the action of Colorado, its corporations and citizens in appropriating the waters of the Arkansas for irrigation purposes.”

206 U. S. 117.

In still another case this Court, referring to such rights of a State, said *arguendo*:

"These rights may vary according to the system of law required by natural conditions. They may be more or less analogous to common law rights between upper and lower proprietors, where irrigation is not necessary, as in most of the older States. See *New York vs. Pine*, 185 U. S. 93, 96. There may be some, perhaps limited, right of appropriation in the upper State, at least in the watershed of the stream, where irrigation is the condition of using the land. See *Kansas vs. Colorado*, 206 U. S. 46, 100-104, 117."

Rickey Land & Cattle Co. vs. Miller & Lux,
218 U. S. 258.

Likewise *arguendo* this Court in speaking of water rights in another case used this language:

"We know of no reason to doubt, and we assume, that, subject to such rights as the lower State might be decided by this Court to have, and to vested private rights, if any, protected by the Constitution, the State of Montana has full legislative power over Sage Creek while it flows within that State. *Kansas vs. Colorado*, 206 U. S. 46, 93-95. Therefore, subject to the same qualifications, we assume that the concurrence of the laws of Montana with those of Wyoming is necessary to create easements, or such private rights and obligations as are in dispute, across their common boundary line. *Missouri vs. Illinois*, 200 U. S. 496, 521. *Rickey Land & Cattle Co. vs. Miller & Lux*, 218 U. S. 258, 260. But with regard to such rights as came into question in the older States, we believe that it always was assumed, in the absence of legislation to the contrary, that

the States were willing to ignore boundaries, and allowed the same rights to be acquired from outside the State that could be acquired from within. *Mannville Co. vs. Worcester*, 138 Massachusetts, 89. *Thayer vs. Brooks*, 17 Ohio, 489. *Slack vs. Walcott*, 3 Mason, 508, 516. *Stillman vs. White Rock Manuf. Co.*, 3 Woodb. & M. 538. *Rundle vs. Delaware & Raritan Canal Co.*, 1 Wall. Jr. 275, 14 How. 80. *Foot vs. Edwards*, 2 Blatchf. 310. See *Wooster vs. Great Falls Manuf. Co.*, 39 Maine, 246, 253; *Armendiaz vs. Stillman*, 54 Texas, 623; *State vs. Lord*, 16 N. H. 357. *Howard vs. Ingersoll*, 17 Alabama, 780, 793."

Bean vs. Morris, 221 U. S. 485.

In 3 *Kinney on Irrigation* (2nd Ed.) Sec. 1225, page 2216, that learned author has this to say:

"The rights of the respective States and of the citizens thereof in and to the use of waters of an interstate stream depend somewhat upon the laws of those States governing waters. If the common law is the only law of waters governing two adjoining States through which an interstate river flows, or if both States have adopted the Arid Region Doctrine of appropriation, the right to the use of the waters of an interstate stream is not affected by the boundary line which divides the States. But where there is conflict of the laws relative to the subject of water, that is to say, the lower State upon the stream having only the common law of riparian rights, and the upper State having adopted the Arid Region Doctrine of appropriation, the rule is different, and will be discussed in a subsequent section of this chapter."

The learned author quoted above refers to Section 1227 of the same Chapter for the promised discussion. In that Section he says:

“The equitable division of the waters of interstate streams between the States through which or adjoining which such streams flow being the rule of law adopted by the Supreme Court of the United States as governing the subject, in what that Court terms the ‘practically building up what may not be improperly called interstate common law’, as discussed in the preceding sections, it must therefore follow that this rule is not affected by the conflict of the laws of the respective States governing the waters flowing within their respective jurisdictions. Although each State has the power to adopt such laws as it sees fit to govern the waters within its own territory, no State has the power to enact such laws for another State. As said by Mr. Justice Brewer in rendering the opinion of the unanimous Court in the Kansas-Colorado case: ‘Neither State can legislate for nor impose its own policy upon the other.’ So, as far as this rule of equitable division of the waters of an interstate stream is concerned, it makes no difference as to whether or not one of the States has utterly repudiated the common law of riparian rights and adopted the Arid Region Doctrine of appropriation and another State relies wholly upon the common law of riparian rights. The rule of equitable division between the two States must prevail in any event. This rule of law is illustrated by the Kansas-Colorado case, where the Arkansas River takes its rise in the mountains of Colorado, where the rule of law governing the waters of the State is that of the Arid Region Doctrine of appropriation only, and where the stream flows into the State of Kansas, where it was contended that the prevailing rule of law was the common law doctrine of riparian rights, but which State, in fact, had both systems of laws governing waters.

“Again, the rule is illustrated in the case of *Anderson vs. Bassman*, where the stream in question takes its rise in the high Sierras in California,

which State has both rules of law governing its waters, the doctrine of appropriation and the common law of riparian rights, and where the stream flows into the State of Nevada, which State has utterly repudiated the common law of riparian rights and has adopted the Arid Region Doctrine of appropriation as its only rule of law governing the waters flowing within its boundaries.

“Neither does the fact that one of the States has dedicated all the waters flowing within its boundaries, either by constitutional provisions or by statutory enactment, to the State and to its citizens affect the right of the division of the waters of interstate streams upon an equitable basis. As was stated by Judge Hallett in the case of *Hoge vs. Eaton*: ‘The idea of an exclusive right in the people of a State to divert its running waters, to the injury of riparian owners in another State, must be equally untenable. Indeed, the doctrine of riparian ownership and the use of running water is not subject to political boundaries. Between hostile States the doctrine may not be recognized, but any such repudiation would be simply *vis major*. Between States dwelling in peace and concord, as are the States of our Union, the equal right of the inhabitants of each State must always be recognized.’”

3 Kinney on Irrigation, Page 2220, Sec. 1227.

Again in Section 1230 that author has this to say:

“The equitable division of the waters of interstate streams between the respective States through or by which they flow involves no question of international law, as is the case of the division of the waters of streams which flow through or bound different independent countries. Under Article I, Section 10 of the Constitution of the United States, it is provided: ‘No State shall, without the con-

sent of Congress, * * * enter into any agreement or compact with another State', etc. Therefore, 'they can not enter upon diplomatic relations, and make treaties.' 'Bound hand and foot by the prohibition of the Constitution, a complaining State can neither treat, agree, nor fight with its adversary, without the consent of Congress.' Therefore, a resort to the judicial power is the only means for adjusting the rights to the waters of interstate streams between the different States entitled thereto. And, again, the idea that there can arise any international question in the case of the use of the waters of an interstate stream by the different States of this country, through which or adjoining which such a stream flows, can not be maintained."

3 Kinney on Irrigation, Sec. 1230.

The Attorney General of the United States, Judge Harmon, was called upon in 1895 to give an opinion concerning certain complaints made by Mexico against certain diversions of water from tributaries of the Rio Grande which were claimed to reduce the flow of that stream to the injury of Mexican appropriators. The opinion given contains this language:

"The case presented is a novel one. Whether the circumstances make it possible or proper to take any action from considerations of comity, is a question which does not pertain to this Department; but that question should be decided as one of policy only, because, in my opinion, the rules, principles, and precedents of international law impose no liability or obligation upon the United States."

Opinions of the Attorneys General, Vol. 21,
page 274.

If by the word "novel" the Attorney General intended to say that the question was one of first impression, he was apparently, to some extent at least, in error. On June 12, 1880, Mr. Evarts, as Secretary of State, enclosed to the United States Legation in Mexico certain complaints from citizens of Texas living on the Rio Grande. These complaints were to the effect that certain Mexicans in Mexico were in the habit of diverting the waters of the Rio Grande into their ditches, thereby preventing the complainants from obtaining water for the irrigation of their crops.

"This", said Mr. Evarts, "if true, would be in direct opposition to the recognized rights of riparian owners, and, if persisted in, must result in disaster and ruin to our farming population on the line of the Rio Grande, and might eventually, if not amicably adjusted through the medium of diplomatic intervention, be productive of constant strife and breaches of the peace between the inhabitants of either shore."

1 Moore's Dig. Int. L. 653.

It is worthy of notice that the complaints made by the Mexican Minister concerning which the opinion of Mr. Attorney General Harmon was written, continued in one form or another for many years after 1895. They resulted in an action brought by the Attorney General of the United States in the District Court of the Third Judicial District of New Mexico against the Rio Grande Dam & Irrigation Company on May 24, 1897. That case reached this Court and is found as *United States vs. Rio Grande Dam & Irrigation Company*, 174 U. S. 690. The complaint still persisted, and resulted in a special treaty confined to

the distribution of the waters of the Rio Grande. In that treaty between the United States and Mexico, the United States agreed, without expense to Mexico to furnish and deliver to Mexico 60,000 acre feet of water annually. Mexico agreed on its part in consideration of the delivery of the water above stated, to waive any and all claims to the waters of the Rio Grande between the head of the Mexican Canal and Fort Quitman, Texas, and also declared fully settled and disposed of and waived "all claims heretofore asserted or existing, or that may hereafter arise, or be asserted, against the United States on account of any damages alleged to have been sustained by the owners of land in Mexico, by reason of the diversion by citizens of the United States of waters of the Rio Grande." (34 Statutes at Large, Part 3, Page 2953.)

It is true that the United States in that treaty stipulated that it did not concede any basis for the claims asserted by Mexico, nor concede the establishment of any general principle or precedent by the concluding of the treaty.

It is apparent that nothing in any of the quotations or discussions above draws in any clear way the lines bounding the rights of a State as distinguished from those of its citizens in the waters of an interstate stream. Nor is there anything in any clear way marking out the principles upon which equitable division of waters shall be made in such streams. These matters are left to be determined by rules that may be worked out or by analogies from rules governing such matters where the adjoining proprietors instead of being States are individuals. Some of the suggestions of this Court, as above indicated, seem to hint that such rules "may be more or less analogous to common law rights between upper and lower proprietors."

A just criticism has often been made on precedents established in interstate relations to the effect that many such precedents are almost solely the result of "*vis major*". It is to be hoped that the tendencies in dealings between States are in the direction of principles of right and justice; in other words, equitable principles. When such principles are sought and applied in international relations, they are found to approximate more and more closely the equitable principles governing relations between individuals.

In the case at bar at least there can be no such thing as *vis major*. The parties to this controversy are not permitted to make war upon one another, nor even to make treaties with one another. Their controversy is, therefore, brought to this Court to be here determined. So far as we can see, the rules of right, justice, equity, in the controversy here, are identical with the rules of right, justice, equity, that would govern between private persons located on this stream.

So far as we can see, if it is equitable that a prior appropriator should have a right prior to the appropriator who comes later to the stream when private persons only are involved, it is also equitable as between States that the State which first appropriates the water shall have a right in the stream superior to the State which comes later. In the case of private persons, as well as in the case of a State, there may be other rights involved than the rights of the parties to the controversy. In the case of litigation between private persons, a Court of Equity will ordinarily require all who are affected by the decree to be pronounced between the parties to be brought into the litigation in order that the rights of all may be determined.

In this case the waters flow naturally into, by and

through many States. The decision here, if final as to other States not parties, might if made in one direction easily affect injuriously many citizens of Nebraska and that State herself. It is perhaps with something of this in view that the Court has directed an appearance by the Attorney General of the United States so that every consideration may be given to all possible interests of all possible persons.

In irrigation litigation the indirect results to others have thus far not persuaded the Courts to require all directly or remotely affected to be made parties to the proceedings, and in the case at bar such a course would be impracticable. But it is clear that not only the direct results but the tendencies of the decision here as affecting not only the parties to this proceeding but others not here made parties should be taken into account.

The Rights of States in Interstate Streams as Analogous to the Rights of Private Owners

If this case is to be ruled by principles of law already discovered and laid down, so far as we have been able to see they are ruled by principles governing between private persons. The precedents as to international rights on international streams are scarcely sufficient upon which to base any rule, and such as they are they are contradictory, even this Government contending now that riparian rights govern as between States when diversions of water were made within the boundaries of a foreign government, and again contending that the foreign government has no right to complain when

diversions were made within the boundaries of this country from an interstate stream, and still later, while in words protesting that it was not doing so, in deeds recognizing the rights of those injured by diversions within our territories from an interstate stream. The only precedents, therefore, from which the principles that must here govern can be deduced, so far as we can see, are the principles discovered and adopted as to rights between private persons.

Applying the principles as they govern between adjoining private proprietors, there are, as we have seen, two general sets of principles, one denominated the riparian rights doctrine, the other denominated the doctrine of prior appropriation.

The Roman law as appears from the Pandects of Justinian adopted the principles of riparian rights and apparently allowed something in the way of irrigation and of equitable division of waters for that purpose. The same is true of the Code Napoleon, Article 644. This was true likewise of the Mexican law at the time of the acquisition of our Mexican territory, including Colorado and large parts of Wyoming. (1 *Wiel on Water Rights*, 68, 685, 1026.) But in all these jurisdictions, while water was to an extent used for irrigation, riparian rights were held superior to rights for irrigation.

It is needless to cite authority to show that in Great Britain and in most of the States of the Union, while there has been some limited right to use water more or less for irrigation purposes, still the rights of the riparian proprietor are superior. In all the jurisdictions above mentioned, the riparian proprietor had the right to insist that the use of water should not unreasonably reduce the flow of the stream, should be

confined within the watershed, and that the surplus should always be returned to the stream.

There are eighteen of the States and territories of the United States which may be denominated generally the irrigation States, inasmuch as in each of these eighteen States there is more or less of arid land requiring irrigation, and the laws of these States recognize more or less irrigation rights. These are Alaska, Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, New Mexico, Nevada, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington and Wyoming. In ten of these States and territories, namely, Alaska, California, Kansas, Montana, North Dakota, Oklahoma, Oregon, South Dakota, Texas and Washington, while the use of waters of streams for irrigation is permitted, the riparian proprietor is recognized as having the superior right and the waters are not permitted to be diverted by the irrigators beyond the watershed, but the surplus must be returned to the original stream.

1 Wiel on Water Rights (Third Edition) p. 849.

1 Kinney on Irrigation, p. 782.

2 Farnham on Waters 1572, 3 Id. 1903.

Wiggins vs. Water Co., 113 Cal. 182, 45 Pac. p. 160.

Bathgate vs. Irvine, 125 Cal. 135, 58 Pac. p. 442.

Southern Cal. Inv. Co. vs. Wilshire, 144 Cal. 68.

Anaheim Union Water Co. vs. Fuller, 150 Cal. 327, 88 Pac. 978, 980.

Clark vs. Allaman, 71 Kans. 206, 80 Pac. 571, 585.

Watkins Land Co. vs. Clements, 98 Tex. Civ. App. 578.

Matagorda Canal Co. vs. Markham Irr. Co.,
.... Tex. Civ. App., 154 S. W. 1176.

In the other seven irrigating States, viz., Arizona, Colorado, Idaho, New Mexico, Nevada, Utah and Wyoming, fuller rights of appropriation are recognized, and apparently the right is recognized to take water outside the watershed, even over the objections of those within the watershed. *But in neither of these States is any diversion from the watershed permitted on a principle of equitable division even remotely expressed or implied.* On the contrary each of these States insists upon the doctrine which we have discussed elsewhere, that the rights of a prior appropriator are exclusive, even to the full extent of his prior appropriation. No division of the waters which would take anything from the prior appropriator to his injury is recognized as in any sense equitable.

This Court in the case of *Kansas vs. Colorado*, reached a conclusion that on the facts in that case equitable division of the waters was a reasonable principle as between adjoining States on an interstate stream. As we understand that case, this principle of equitable division was not evolved as a new principle but was a mere application of the doctrine of equitable division as between private riparian owners. No rules for equitable division were laid down in that case, nor were any such rules even discussed excepting by a reference to rules of division between riparian owners. This, we think, is made clear by the language of the opinion in that case. The Court said:

“And here we must notice the local law of Kansas as declared by its Supreme Court, premis-

ing that the views expressed in this opinion are to be confined to a case in which the facts and the local law of the two States are as here disclosed. In *Clark vs. Allaman*, 71 Kansas, 206, is an exhaustive discussion of the question, Mr. Justice Burch delivering the unanimous opinion of the court. In the syllabus, which by statute (Compiled Laws, Kansas, p. 317, sec. 14) is prepared by the justice writing the opinion, and states the law of the case, are these paragraphs:

“ ‘The use of the water of a running stream for irrigation, after its primary uses for quenching thirst and other domestic requirements have been subserved, is one of the common law rights of a riparian proprietor.

“ ‘The use of water by a riparian proprietor for irrigation purposes must be reasonable under all the circumstances, and the right must be exercised with due regard to the equal right of every other riparian owner along the course of the stream.

“ ‘A diminution of the flow of water over riparian land caused by its use for irrigation purposes by upper riparian proprietors occasions no injury for which damages may be allowed unless it results in subtracting from the value of the land by interfering with the reasonable uses of the water which the landowner is able to enjoy.

“ ‘In determining the quantity of land tributary to and lying along a stream which a single proprietor may irrigate the principle of equality of right with others should control, irrespective of the accidental matter of governmental subdivisions of the land.’

“And in the opinion, on pages 242, 243, are quoted these observations of Chief Justice Shaw in the case of *Elliott vs. Fitchburg Railroad Company*, 10 Cush. 191, 193, 196:

“ The right to flowing water is now well settled to be a right incident to property in the land; it is a right *publici juris*, of such a character that whilst it is common and equal to all, through whose land it runs, and no one can obstruct or divert it, yet, as one of the beneficial gifts of Providence, each proprietor has a right to a just and reasonable use of it, as it passes through his land; and so long as it is not wholly obstructed or diverted, or no larger appropriation of the water running through it is made than a just and reasonable use, it cannot be said to be wrongful or injurious to a proprietor lower down. What is such a just and reasonable use, may often be a difficult question, depending on various circumstances. To take a quantity of water from a large running stream for agriculture or manufacturing purposes, would cause no sensible or practicable diminution of the benefit, to the prejudice of a lower proprietor; whereas, taking the same quantity from a small running brook passing through many farms, would be of great and manifest injury to those below, who need it for domestic supply or watering cattle; and therefore it would be an unreasonable use of the water, and an action would lie in the latter case and not in the former. It is, therefore, to a considerable extent a question of degree; still, the rule is the same, that each proprietor has a right to a reasonable use of it, for his own benefit, for domestic use, and for manufacturing and agricultural purposes. * * *

“ That a portion of the water of a stream may be used for the purpose of irrigating land, we think is well established as one of the rights of the proprietors of the soil along or through which it passes. Yet a proprietor cannot under color of that right, or for the actual purpose of irrigating his own land, wholly abstract or divert the water-course, or take such an unreasonable quantity of water, or make such unreasonable use of it, as

to deprive other proprietors of the substantial benefits which they might derive from it, if not diverted or used unreasonably. * * *

“ This rule, that no riparian proprietor can wholly abstract or divert a watercourse, by which it would cease to be a running stream, or use it unreasonably in its passage, and thereby deprive a lower proprietor of a quality of his property, deemed in law incidental and beneficial, necessarily flows from the principle that the right to the reasonable and beneficial use of a running stream is common to all the riparian proprietors, and so, each is bound so to use his common right, as not essentially to prevent or interfere with an equally beneficial enjoyment of the common right, by all the proprietors. * * *

“ The right to the use of flowing water is *publici juris*, and common to all the riparian proprietors; it is not an absolute and exclusive right to all the water flowing past their land, so that any obstruction would give a cause of action; but it is a right to the flow and enjoyment of the water, subject to a similar right in all the proprietors, to the reasonable enjoyment of the same gift of Providence. It is, therefore, only for an abstraction and deprivation of this common benefit, or for an unreasonable and unauthorized use of it, that an action will lie.’

“As Kansas thus recognizes the right of appropriating the waters of a stream for the purposes of irrigation, subject to the condition of an equitable division between the riparian proprietors, she cannot complain if the same rule is administered between herself and a sister State.”

Kansas vs. Colorado, 206 U. S. 46, 102.

In the case last above cited, the equitable division was all within the watershed. No question arose there

of permitting such division as would carry waters without the watershed. One would search in vain for any doctrine of equitable division of waters which would permit one proprietor to carry the waters without the watershed with no obligation to return them to the stream in any State or country administering the rule of riparian rights. In the seven States, possibly the most arid, as we have seen, no doctrine of equitable division of the waters is allowed. The matter rests solely upon prior appropriation and he who first appropriates may use the water to the extent of his appropriation even though later appropriators obtain nothing from the stream. Nowhere, therefore, do we find any rule of equitable division allowing the waters to be taken from the watershed, with no obligation to return them to the stream.

It is interesting, moreover, to note that there are at least tendencies in some of these States constituting the seven last above mentioned, to recognize rights of owners along the stream and to restrict the diversion beyond the watershed. For instance in the Session Laws of Nevada of 1907, Chapter 18, Section 4, page 31, the following provision was put into statute law of the State of Nevada:

"No person shall be permitted to divert or use any more of the waters of a natural water course or natural lake than sufficient when properly and economically used to answer the purpose for which the diversion is made; nor shall any person be permitted to waste any such water and all surface water remaining after use, unavoidable waste excepted, shall be returned to the channel by the persons diverting the same, without unreasonable delay or detention."

In the Session Laws of New Mexico 1907, Chapter 49, Section 72, page 95, (New Mexico Statutes Ann. 1915, Section 5718) occurs the following provision:

"It shall hereafter be unlawful for any person, company or corporation to divert the waters of any public stream in New Mexico for use for reservoirs or other purposes in a valley other than that of any such stream to the impairment of valid and subsisting prior appropriations of such waters."

In the case of *Hutchison vs. Watson Slough Ditch Co., Limited, et al.*, 16 Ida. 484, (101 Pac. 1059), the Court first recognizes the principle that in that State the rights of a riparian proprietor are inferior to the rights of an appropriator, but nevertheless recognizes substantial rights such as must be appropriately guarded and protected by the courts in riparian proprietors as such.

And in the case of *Anderson vs. Bassman*, 140 Fed. 14, decided by Circuit Judge Morrow, sitting in the Circuit Court, that learned Judge used these words:

"The decree will also restrict defendants, whether riparian or nonriparian owners, on and after June 1, 1906, from using water from the river where no provision is made for returning surplus water to the river."

(140 Fed. on page 29.)

This language is significant when it is remembered that the stream was an interstate stream; that the lands irrigated by some of the parties to the suit were lands in Nevada, the water being taken from the stream in that State, and that lands of other parties

were in California, the water being taken from the stream in that State.

The effect of the claim of Colorado in this case is therefore a contention for a new principle of law antagonistic to the judgment of mankind from the beginning of history to this day. We submit that there is no right to any equitable division of the waters such as will permit Colorado to take the waters of the Laramie River in the manner here threatened.

C.

Does Colorado have the Right as a Sovereign State to take all Waters found within her Boundaries and use them as she will, Regardless of the Injuries thereby Inflicted upon Others?

This Court has in many cases considered the rights of States as against one another. *Missouri vs. Illinois et al.*, 180 U. S., 208; *Georgia vs. Tennessee Copper Company*, 206 U. S., 230; *Kansas vs. Colorado*, 185 U. S., 125; 206 U. S., 46, and cases cited by these. It is clearly established by this Court that a State does not have a right to do acts within its own borders which shall affirmatively cause injury in another State. In the Georgia case the defendant was enjoined from so polluting the atmosphere in Tennessee as to cause damage in Georgia. In the case of *Missouri vs. Illinois*, while no decree was rendered the case was considered by this Court on its merits in such way as conceded that the pollution of the waters of the river by the State of Illinois so as to cause damage to Missouri

and its citizens, would give a right of action in this Court to the State of Missouri. In the case of *Kansas vs. Colorado* as reported in the 185 U. S., the demurrer was over-ruled, necessarily holding as it seems to us that a right of action could exist in favor of *Kansas* against *Colorado* for diverting the waters of the *Arkansas* within the boundaries of *Colorado* in such way as to prevent those waters from flowing down into *Kansas*. And in the final decision of the case of *Kansas vs. Colorado* this Court in terms announced the principle that the depletion of the waters could be carried so far that *Kansas* might "rightfully call for relief against the action of *Colorado*, its corporations and citizens, in appropriating the waters of the *Arkansas* for irrigating purposes."

On the whole we deem the question of the sovereign right of *Colorado* to take the waters as she will, one so fully settled by this Court even if the principle claimed by *Colorado* were much better founded in reason, that we feel it unnecessary further to discuss it.

We submit:

First, that the proof is clear in favor of *Wyoming* showing prior appropriations of all the waters of the stream. The proof is especially clear showing that the stream does not furnish sufficient water for the *Wyoming* irrigators during the irrigation season in most years, and therefore that *Wyoming* is entitled to ask injunctive relief against *Colorado* for the threatened diversion, which, as we believe the evidence shows, would clearly cause irreparable injury and damage in the destruction of prosperous communities and enterprises within the State of *Wyoming*.

Second, That there is not here any right in Colorado to a so-called equitable division of the waters for the purpose of the diversion threatened because (a), the threatened diversion interfering as it does with the Wyoming prior appropriators and depriving them of necessary water is contrary to every principle of prior appropriation; (b), the diversion threatened taking the water as it does from the watershed so that it cannot return to the stream is contrary to every principle and doctrine of riparian rights; (c), that there is no rule or principle governing the depletion of streams *in invitum* excepting the doctrines and principles of prior appropriation and the doctrines and principles of riparian rights and combinations of these two, and nowhere do such principles permit equitable division of water outside the watershed so as to take it away at the same time from prior appropriators and from riparian owners.

Third, That no rule of sovereign rights exists as claimed by Colorado permitting her to take and use the waters as she will, regardless of others.

Fourth, That Wyoming is entitled to the injunction prayed for.

Respectfully submitted,

DOUGLAS A. PRESTON,

*Attorney General of the State of Wyoming
and Solicitor and of Counsel
for the Plaintiff.*

JOHN D. CLARK,
NELLIS E. CORTHELL,
HERBERT V. LACEY,
JOHN W. LACEY,
Of Counsel.

No. _____

Original

In the Supreme Court of the United States
OCTOBER TERM, 1912

IN EQUITY

THE STATE OF WYOMING, COMPLAINANT,

VS.

THE STATE OF COLORADO, THE GREELEY-POUDRE IRRIGATION DISTRICT, A MUNICIPAL CORPORATION, THE LARAMIE POUDRE RESERVOIRS AND IRRIGATION COMPANY, A CORPORATION, DEFENDANTS.

Brief of Complainant on Demurrer

DOUGLAS A. PRESTON,

*Attorney General of the State of Wyoming
and Solicitor and of Counsel
for the Plaintiff.*

N. E. CORTHELL,

JOHN W. LACEY,

Of Counsel.

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In the Supreme Court of the United States

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ORIGINAL

THE STATE OF WYOMING,

Complainant,

vs.

THE STATE OF COLORADO, The

Greeley-Poudre Irrigation District,

a municipal corporation, The Laramie

Poudre Reservoirs and Irriga-

tion Company, a corporation,

Defendants.

IN EQUITY

BRIEF OF COMPLAINANT ON DEMURRER

I.

STATEMENT OF THE CASE

This is a suit by the State of Wyoming against the State of Colorado and two individual defendants, growing out of questions of the use of water from an interstate stream, the Laramie River.

The Bill alleges that in 1865 the settlement of the valley of the Laramie in Wyoming began, and

from that time on to the time of the commencement of the wrongs complained of the settlers in the valley of the Laramie in Wyoming had improved and by the practice of irrigation had rendered highly productive the lands in that valley in Wyoming, and had built up there a community of twenty thousand people, irrigating three hundred and twenty-five thousand acres of land.

It is alleged that these lands without the artificial irrigation are so arid in character that they are unproductive; that the citizens of the plaintiff had built the City of Laramie within the valley of the stream, and the plaintiff had established there its State University; and the community, the City, the University, the real values of the lands, are all dependent upon the use of the waters in controversy; that by the practice of irrigation the lands within the valley have become worth a large amount, to-wit, more than ten millions of dollars.

The Bill alleges that it has become established by the customs, laws and decisions of both Colorado and Wyoming that the waters of all streams are open for appropriation and use for irrigation purposes; that priority of appropriation gives priority of right; that neither the point of diversion nor the place nor kind of use of any appropriation or any water appropriated

may be changed to the injury of any other appropriator.

The Bill further alleges that the mountains at the head of the Laramie River where very heavy banks of snow fall in winter are within the State of Colorado, and that it is these heavy banks of snow in Colorado which supply the waters of the stream, the valley of the Laramie in Wyoming being arid and furnishing little water.

It is further alleged that notwithstanding the prior appropriation of the water by citizens of Wyoming, the defendants are threatening to pierce the walls of the water shed by a tunnel through the mountains, and to carry away the waters of the stream to the amount of more than one hundred thousand acre feet per annum, (an acre foot being such amount of water as will cover one acre of ground to a depth of one foot), to a point more than one hundred miles away from the Laramie valley and from which no part of the waters can return.

It is further alleged that if this threat is carried out, it will destroy the value of the lands within the watershed of the Laramie River in the State of Wyoming, and will destroy the community which has been built up there. These matters are confessed by a demurrer to the Bill, the demurrer claiming that these facts do not authorize any relief.

II.

BRIEF OF THE ARGUMENT

**1. THE CONTROVERSY IS ONE OF JUSTICI-
ABLE NATURE.**

The admission by the demurrer is that the State of Colorado, directly and through her agencies the other defendants, is threatening and intending to divert the waters of the Laramie River in such way as to prevent the waters so diverted from reaching the State of Wyoming, and that such diversion will practically render valueless 325,000 acres of lands which through the use of said waters in irrigation have become of the value of more than ten million dollars, and have been made to support a community of more than twenty thousand people.

That the matter so confessed is one of a justiciable nature is made entirely clear by the opinions of this court in *Kansas v. Colorado*, 185 U. S. 125, and 206 U. S. 46, and the complainant may maintain the action on its own behalf and also “as *parens patriae*, trustee, guardian or representative” of the considerable portion of its citizens whose property is threatened with destruction and whose health and comfort are threatened with serious injury.

2. THE RELATIVE RIGHTS TO THE WATER.

Stated briefly, counsel for the defendants claim that there are three separate doctrines under which the rights of the parties are to be viewed, as follows:

First. It is said that there is one doctrine under which Colorado as a sovereign State might claim ownership and title to all waters within that State, and the full right to use all such waters regardless of the rights of neighboring States and regardless of injuries that might be thereby occasioned to neighboring States.

Second. It is said that there is another doctrine under which Colorado might use the waters within that State, but not in such way as to diminish unreasonably the resources of Wyoming.

Third. The third doctrine, as suggested by counsel, is the doctrine of prior appropriation under which he who first appropriates water from a particular stream is prior in right regardless of State lines.

From our standpoint a discussion of the first and third doctrines stated by counsel must merge into a single discussion.

(a) COLORADO MUST RESPECT PRIOR APPROPRIATIONS.

Counsel argue for the doctrine of State ownership. The claim is that Colorado owns the waters of the

State; that she has the "paramount right to the exclusive use of all waters of her natural streams"; that she "has the right to control the waters of the non-navigable streams of the State without interference by any other State"; that the "entire flow of the water within the State is impressed with the public use for the benefit of the State and the people thereof"; that her statutes contemplate "the appropriation of all the waters flowing in Colorado for use on lands in Colorado."

For this argument and contention, counsel cite Article 16, Section 5 of the Colorado Constitution and the following decisions of the Colorado Courts, viz.: *Wheeler v. Northern Colorado Irri. Co.*, 10 Colo. 587; *Wyatt v. Larimer-Weld Irri. Co.*, 1 Colo. App. 480, and *Lampson v. Vailes*, 27 Colo. 201; and in the same connection counsel cite Article 1, Section 31, and Article 8, Section 1 of the Wyoming Constitution, and *Turley, et al. v. Furman, et al.* (N. M.) 114 Pac. 278.

The Colorado Cases Do Not Support Defendants Here.

Let us first consider the Colorado decisions under her constitution.

Sec. 5 of Article XVI of the Colorado Constitution is as follows:

“Water Public Property—The water of every natural stream not heretofore appropriated, within the state of Colorado, is hereby declared to be the property of the public, and the same is dedicated to the use of the people of the state, subject to appropriation as hereinafter provided.”

Sec. 6 of the same Article is as follows:

“The right to divert unappropriated waters of any natural stream to beneficial uses shall never be denied. Priority of appropriation shall give the better right as between those using the water for the same purpose; but when the waters of any natural stream are not sufficient for the service of all those desiring the use of the same, those using the water for domestic purposes shall have the preference over those claiming for any other purpose, and those using the water for agricultural purposes shall have preference over those using the same for manufacturing purposes.”

In the case of *Wheeler v. Northern Colorado Irrigation Co.*, *supra*, cited by counsel, no question arose as between use of waters within the State and their use without the State, nor did the Court even by way of discussion or *obiter dicta* refer to any such question. To be exact, the language used by the Court is as follows:

“Our Constitution dedicates all unappropriated water in the natural streams of the State ‘to the use of the people’, the ownership thereof being vested in ‘the public’ ”.

In other words, the Court in that case quoted from the Constitution, and did practically nothing in the way of construing it.

The case of *Wyatt v. Larimer-Weld Irrigation Company*, *supra*, cited by counsel, is similar. There was nothing in the facts in that case which could raise any question of priorities depending upon use within as against use without the State, nor was there any attempt to raise or pass upon any such question. The opinion of the Court, however, quoted the State Constitution, and by way of quotation gave definitions of the words "public" and "people" as contained in Section 5 of Article 16 of that instrument. In speaking further of the Section and its effect upon rights, the Court used this language:

"The offices to be performed by a constitution are two: First, it is declaratory of the rights inherent in the people, exercised by them, and existing long before its adoption; second, it is a limitation upon all legislative power, preventing any subsequent interference with the declared rights, and perpetuating them. 'Written constitutions sanctify and confirm great principles, but the latter are prior in existence to the former.'

* * * * *

The history of water rights in this state will show that the rights and principles declared in the constitution were recognized and acted upon by the people years before they were formulated,

and declared in that instrument; that such rights had their inception in the earliest attempt at agriculture, when it was found that climatic conditions demanded the artificial use of water to produce crops. The title of the public and the people to the water in the streams, and the right to divert and appropriate, were recognized and acted upon, the only requirement being an application to a beneficial use; and such rights to the use of water, as between different consumers or users, were established upon the broad equitable basis that preferences were to be controlled by the respective dates when the conflicting appropriations were made. When thus appropriated, the party appropriating was regarded as having a proprietary interest,—a right of property in, and the title to, the water appropriated and diverted, with the right to use, sell, or loan it, like other property. By such appropriation, and by reason of the diversion and separation of the water from the volume of the stream, the title of the public or people was divested, and the appropriator became the owner. Cleared of all embarrassment, by reason of the supposed double ownership, we find the rights declared in the constitution to be the same that were recognized and acted upon by the people before its adoption."

It is evident that the Supreme Court of Colorado in the language just quoted did not attempt to hold that the Constitution enacted a new principle by way of legislation, or otherwise, or declared a new doctrine. On the contrary the holding is that the Constitution

merely declares the old principles long recognized and exactly as recognized, viz., that water is subject to appropriation, that priority of appropriation gives priority of right, and that the appropriator obtains by his appropriation "a proprietary interest,—a right of property in, and the title to, the water appropriated." The Court does not declare in that case that the owners of the lands within the State are the elect, and that the rest of the world is without rights. It does not discuss the question of the effect of State lines on water rights, *but it does very significantly hold that the Constitution is not an enactment, and declares no new doctrine, establishes no new right.* It is needless to say that this construction is reasonable, and that this Court will not reverse the construction given by the Supreme Court of Colorado. The Constitution, therefore, leaves the question of the rights as between lands in the State and lands without exactly as it was before the Constitution was adopted. In other words, it leaves it to the customs and usages of the region.

Counsel are no more fortunate in the case of *Lampson v. Vailes*, *supra*, which they cite. In that case the Supreme Court of Colorado state the question before it and its decision, as follows:

"The legal questions discussed are: First. Can water be appropriated by diversion in Colo-

rado for use in New Mexico? In other words, may one owning land in the territory of New Mexico, whether he be a citizen of the State of Colorado or of some other state or territory of the Union, make a diversion in this state from the waters of a nonnavigable stream, and convey the same into the territory of New Mexico for the irrigation of lands therein? Second. Has the district court of La Plata County, under the so-called 'Irrigation Statutes', jurisdiction in the statutory proceeding to award priorities to a ditch which, though having its headgate in this state, was intended to, and does, carry water outside of this state, and into the territory of New Mexico, for the irrigation of lands there?

The first is a very important question, and one which, so far as we are advised, has not been passed upon by a court of last resort, though it is claimed that, in principle, the decision in *Howell v. Johnson* (C. C.) 89 Fed. 556, is authority for the contention. Certain it is that it is a case of first impression in this jurisdiction. In the view we take of the second legal proposition, it is not necessary to a decision of this appeal to determine the first."

Having thus refused to rule upon the general question like the one at bar, the court disposes of the other question (viz. the jurisdiction of the district under the statutory proceeding), as follows:

"It is clear that the court below, in deciding that it had not jurisdiction to award a priority

to the ditch of appellants for the irrigation of lands in New Mexico, but only to the extent that the appropriation was made for lands in Colorado, was right under the statutes governing this special proceeding. The appellants contend that sections 2399, 2403, Mills' Ann. St. (Gen. St. 1883, sections 1762, 1766), contemplate an adjudication for settling the priority of rights for irrigation for all ditches whose points of diversion are within the state, even though the lands to be irrigated are, in whole or in part, beyond its territorial limits. These sections provide for an adjudication of priorities for ditches drawing water for irrigation from the same stream or its tributaries within the same water districts. If driven to that extremity, it would not be difficult, from the language used, to demonstrate that the adjudication was limited to ditches, etc., used for irrigating lands in this state only, though the language does not in terms so provide. We do not, however, rest our conclusion solely upon the language of these sections. We cannot presume that the general assembly intended to enact a law to operate beyond the territorial limits of the state. The distinction sought to be made by appellants, that the point of diversion of the ditch is the sole factor determining the jurisdiction of the court, is not good. The statutes under which this proceeding was instituted—those creating the various water districts, and our entire irrigation law—must be taken together, and, if possible, the different provisions so interpreted as to give effect to all, and make them harmonious, the one with the other. It is not to be supposed that the state was legislating

for the reclamation or irrigation of lands beyond its boundaries, or making provisions, by the way of police regulations (which we have held these statutes, in some measure, to be), over a territory beyond its jurisdiction.

The different acts establishing water districts (1 Mills' Ann. St. sec. 2310 et seq.; Gen. St. 1883, Sec. 1741 et seq.) either in terms declare, or by implication assume, that these districts are restricted to lands within the State; and the particular act creating district No. 33, the one in question, is 'that district number thirty-three shall consist of all lands lying in the state of Colorado irrigated from ditches or canals, taking water from the La Plata river, and its tributaries, which lie in Colorado.' 1 Mills' Ann. St. sec. 2344 (Sess. Laws 1885, p. 259, sec. 26). The earliest territorial acts expressly confine legislation relating to irrigation to lands situate in the territory. 1 Mills' Ann. St. sec. 2256 et seq. (Gen. St. 1883, sec. 1711). From these enactments it is altogether conclusive that in these proceedings, at least, the intention of the general assembly was to limit the adjudication to ditches irrigating lands situate in this state, and not elsewhere.

Such being our conclusion, it is unnecessary, as we have said, to pass upon the other legal proposition pressed upon us."

It will thus be seen that the Court in that case had a question similar to the one at bar, but refused to give any opinion upon it, though citing a case which holds a doctrine contrary to the contention of counsel here.

The case does hold that the "special proceedings" for the adjudication of water rights in force in Colorado which limit themselves to ditches "within the same water district" were in the nature of "police regulations" and not applicable or operative beyond the State lines.

This seems to us a very clear and correct construction of the statutes of Colorado relating to waters. They provide the means of appropriation and the machinery for adjudicating water rights within the state. These statutes are "police regulations", operative only within the state, and hence without extra-territorial effect.

But there is certainly no support here for the contention that these statutes are enactments declaring the waters the exclusive property of Colorado appropriators. So far as the decision goes upon the question it is against any contention that these statutes intend to have any operation either for or against outside appropriators. It shows that the matter within the legislative intent was "police regulation" as between appropriators within the state.

These cases by the Supreme Court of Colorado, therefore, do not decide that appropriators whose lands are beyond the boundaries of the State hold their property right in the water appropriated by a title

in any wise less certain or less sacred than if their lands were within the boundaries of Colorado.

We have, then, the only constitutional provisions of Colorado which are cited by counsel construed by the Supreme Court of that State as not enacting anything new whatever on the subject of rights to water. Moreover the decisions themselves make no attempt to claim for Colorado the exclusive right to the waters within that state which is here claimed in the brief of counsel, and no legislation is cited by counsel which attempts affirmatively to restrict the doctrine of prior right as obtained by prior appropriation to lands within the State as against lands without.

Other Courts.

- (1) *The Federal Court in Colorado Holds to The Rule of Prior Appropriation from Interstate Streams.*

We insist that the Supreme Court of Colorado adopts the correct principle when it says that constitutions are not meant to be legislative in character; they are not enactments; they are not the creation of new rights, but merely declare rights as they already exist. If this section of the Constitution be considered in the light of the customs of the region in relation to waters and their appropriation, the matter would

not seem to be difficult. The result reached in the case of *Hoge v. Eaton, et al.*, 135 Fed. 411, 414, would seem to be the natural result. In that case the question here was brought for decision to the United States District Judge for the District of Colorado while sitting in Circuit within that State. It is worthy of remark that the particular Judge who sat in that case was on the Supreme Bench of Colorado before the admission of that State into the Union and became United States District Judge upon the admission. He therefore must be presumed to have been familiar with the legal history of that State when in 1905 the question was brought before him in the case last cited. In that case the Court, sitting as we have said in Colorado, used this language:

“We had occasion recently to consider whether the right of a citizen to use water within the state for irrigation of lands is granted by the state or general government, and we were unable to discover any principle of that kind. *Mohl v. Lamar Canal Co.* (C. C.) 128 Fed. 776. The idea of an exclusive right in the people of a state to divert its running waters to the injury of riparian owners in another state must be equally untenable. Indeed, the doctrine of riparian ownership and use of running water is not subject to political boundaries. Between hostile states the doctrine may not be recognized, but any such repudiation would be simple *vis major*. Between states dwelling in

peace and concord, as are the states of our Union, the equal right of the inhabitants of each state to the waters of intersecting streams must always be recognized. Water is essential to human life in the same degree as light and air, and no bounds can be set to its use for supplying the natural wants of men other than the mighty barriers which the Creator has made on the face of the earth.

* * * * *

It is enough that complainants and their grantors were in the possession and enjoyment of the water a long time prior to respondents' diversion, and therefore the first appropriators under the law of the land as understood in Wyoming and Colorado."

This case was reversed by the Court of Appeals (*Eaton v. Hoge*, 141 Fed. 64) but the reversal was upon another point and should not weaken the case as authority upon the point here under discussion. The decision of the Court, then, in that case is that the citizens of Colorado have no right to waters of an interstate stream already appropriated beyond her borders; that the fact that the prior appropriation is beyond her borders is immaterial.

(2) *The Courts of New Mexico.*

The case from New Mexico (*Turley, et al. v. Furman, supra*), cited by counsel, decides only that the police regulations of that jurisdiction in relation to

water do not operate beyond the boundaries of the State.

(3) *The Wyoming Courts.*

The Constitution of Wyoming is quite similar to that of Colorado. The provisions are these:

“Water being essential to industrial prosperity, of limited amount, and easy of diversion from its natural channels, its control must be in the state which, in providing for its use, shall equally guard all the various interests involved.”

Constitution of Wyoming, Art. I, Sec. 31.

“The water of all natural streams, springs, lakes or other collections of still water, within the boundaries of the state, are hereby declared to be the property of the state.”

Constitution of Wyoming, Art. VIII, Sec. 1.

“Priority of appropriation for beneficial uses shall give the better right. No appropriation shall be denied except when such denial is demanded by the public interests.”

Constitution of Wyoming, Art. VIII, Sec. 3.

The Supreme Court of Wyoming has been called upon to decide the force of these constitutional declarations and of a Wyoming statute containing similar provisions. A case before the Court was one in which an appropriator in Montana from a nonnavigable inter-

state stream sought to have his rights declared superior to those of an appropriator from the same stream for use upon lands in Wyoming. The opinion of the Court upon the point contains the following:

"This court has stated that the statutory and constitutional declarations seemed rather to declare and confirm a principle already existing than to announce a new one, for the reason that under the rule permitting the acquisition of rights by appropriation the waters become perforce *publici juris*.

* * * * *

The obvious meaning and effect of the expression that the water is the property of the public is that it is the property of the people as a whole. Whatever title, therefore, is held in and to such water resides in the sovereign as representative of the people. The public ownership, if any distinction is material, is rather that of sovereign than proprietor. (*Farm Inv. Co. v. Carpenter*, supra.) That ownership however, is subject to a particular trust or use, specially defined in the statutes and in the constitution. And that trust or use, in the absence of statute, is just as prominently and intrinsically attached to such public ownership. The waters are held subject to appropriation for beneficial uses. And we have endeavored to show that the right of appropriation is not, in the absence of statute at least, restricted locally nor by state lines. The trust is to be considered as co-extensive with the right on which it rests. Upon the general principles governing

such appropriation, we perceive no reason, if the same be not prohibited by statute, why the owner of lands in another state may not at a point in this State lawfully divert the water of a stream flowing in both states and conduct such water upon his lands for their irrigation, and thereby secure a valid water right. There is nothing in the essential character of the trust or use for which the waters are held by the public that, in our judgment, prevents the acquirement of a water right on such stream in that manner, provided the appropriator is able to comply with the statutory provisions regulating and controlling the appropriation and diversion of the public waters.

Moreover, a desirable comity between the states within whose respective dominions the same stream may flow, and a due regard by each for the rights of the residents and land owners in the adjoining state, would seem to require a liberal view of this matter. In an interesting case in Wisconsin, where the question arose whether the state could constitutionally sell the ice formed upon public waters, it was held that where the term 'people of the state' is used to designate the beneficiaries of the trust in navigable waters, all the people who may choose to enjoy the same within the state are referred to, whether citizens of the state or persons who came within its territory, for the purpose of enjoying such public rights. (Rossmiller v. State, 114 Wis., 169.)"

Wiley, et al., v. Decker, et al., 11 Wyo. 496, 533.

Farm Investment Co. v. Carpenter, 9 Wyo. 110.

(4) *The Supreme Court of Idaho.*

The constitution and laws of the State of Idaho contain similar provisions.

“The use of all waters now appropriated, or that may hereafter be appropriated for sale, rental or distribution; also of all water originally appropriated for private use, but which after such appropriation has heretofore been, or may hereafter be sold, rented, or distributed, is hereby declared to be a public use, and subject to the regulation and control of the state in the manner prescribed by law.”

Constitution of Idaho, Article 15, Section 1.

“The right to divert and appropriate the unappropriated waters of any natural stream to beneficial uses shall never be denied. Priority of appropriation shall give the better right as between those using the water.”

Constitution of Idaho, Article 15, Section 3.

“The right to the use of any of the public waters of this state may be acquired by appropriation which must be for some useful or beneficial purpose.”

Laws of Idaho 1895, page 174, Section 2.

See also Laws of Idaho 1899, page 380, Section 2.

Laws of Idaho 1903, page 223 and following.

In the case of *Taylor v. Hulett*, 15 Ida. 265, the

Supreme Court of that State had before it questions of the relative rights between appropriators in Wyoming and Idaho drawing waters from an interstate stream, and in passing upon those questions the Court uses the following language:

“It would seem, upon both reason and authority, that the courts of this state, in ascertaining, decreeing, and protecting property rights in water appropriations within the jurisdiction of the state, may at the same time and for that purpose inquire into and determine rights and priorities on the same stream that are located and situated beyond the state line, in order to fairly and finally judicially determine the relative rights of the parties and decree the extent of the title and right of possession of the thing or subject-matter within this jurisdiction. This proposition ought to be accorded a special recognition and application by the courts in water and irrigation litigation. Streams rise in one state and flow into another, irrespective of boundary lines, and still the rules and doctrines of priority of appropriation and use are the same in most of the arid states. This is particularly true with respect to this case. Here the riparian doctrine of the common law has been abrogated in both Idaho and Wyoming, and the rule of ‘first in time is first in right’ is recognized and enforced in both states. *Drake v. Earhart*, 2 Idaho, 750, 23 Pac. 541; *Moyer v. Preston*, 6 Wyo. 308, 44 Pac. 845, 71 Am. St. Rep. 914; *Farm Investment Co. v. Carpenter*, 9 Wyo. 110, 61 Pac. 258, 50 L. R. A. 747, 87 Am. St. Rep. 918; *Willey v. Decker*,

supra. The relative rights, therefore, of appropriators of the water of an interstate stream are the same, whether the appropriations are all in the same state, or some in one state and the balance in another state. This proposition is accentuated in a case like this, where the court not only has jurisdiction of the res or subject-matter, but also obtains jurisdiction of the person of the defendant. In the case at bar the diversion by the defendants, being the act that causes the injury, takes place in Wyoming; but the injury itself that flows from the wrongful act takes place in this state. It has long been recognized as a general rule that, where an act is committed in one jurisdiction that occasions injury or damage in another jurisdiction, the injured person may elect to bring his action in either jurisdiction."

(5) *The Supreme Court of Utah.*

Similar provisions are found in statutes enacted by the legislature of Utah.

Statutes of Utah, 1905, Chapter 108, Section 47.

Statutes of Utah 1907, pages 56 and 248.

Compiled Laws of Utah 1907, Section 1288,
Clause 18.

The question came up somewhat collaterally in the case of *Conant v. Deep Creek etc. Co.*, 23 Utah 627. The litigation concerned the rights of appropriators taking water from an interstate stream. This question had been adjudicated by the District Court

for Oneida County, Idaho, the stream arising in Idaho and flowing into Utah. In defining the force of the Idaho decision the Supreme Court of Utah in the case above cited uses the following language:

"It is a recognized rule of law that a person who has appropriated water at a certain point in a stream is entitled to have so much of the waters of said stream as he has appropriated flow down to him to the point of his diversion; and if the settlers higher up on the stream, in another state, whose appropriations are subsequent, divert any of the waters of the stream which have been so first appropriated, then the courts of the latter state will protect the first settler in his rights. *Howell v. Johnson* (C. C.) 89 Fed. 556. The Idaho courts, therefore, have ample and complete jurisdiction to protect the rights of respondents to have the waters which they have appropriated, and which they divert in Utah, flow through the channel of the stream, and to limit and determine the rights of the Idaho appropriators with reference thereto; and by the decree entered in the suit in the district court of Oneida county, Idaho, such rights were fully protected, and may be enforced by proper proceedings in that court."

(6) *The Federal Courts in the Arid Region Hold against the Defendants.*

The case of *Howell v. Johnson* (C. C.) 89 Fed. 556, involved a question between Wyoming lands and

Montana lands, each party claiming appropriations from a nonnavigable interstate stream. The contention was made that the Wyoming citizens owning the Wyoming lands could not maintain the action in Montana because the State of Montana owned the waters in that State. This contention was overruled by the Court, which held that the rights must be determined without reference to State lines.

In the case of *Anderson v. Bassman*, (C. C.) 140 Fed. 14, the same question arose between land-owners in Nevada and land-owners in California, each claiming as an appropriator of water from the same non-navigable interstate stream. The Court quotes from the cases of *Howell v. Johnson* and *Hoge v. Eaton*, *supra*, and endorses the views expressed in those cases, saying:

“This court is in entire accord with the views of these two Courts upon this question.”

In the case of *Morris v. Bean*, (C. C.) 123 Fed. 618, the Circuit Court for the District of Montana, upon a demurrer, again had before it the relative rights of Wyoming and Montana appropriators from the same interstate stream, and again held that the prior appropriator is protected in his right “as against subsequent appropriators although the latter withdraw the water within the limits of a different state.”

The final hearing of the case was in the same Cir-

cuit Court, but before a different Judge. *Morris v. Bean*, 146 Fed. 423.

The contention was again made at the final hearing that an appropriator in Wyoming could not in a court in Montana assert rights as against an appropriator in Montana. The Court overruled this contention, the opinion containing among other things the following:

“In the early stages of this suit Judge Knowles refused to sustain the views thus presented by the defendants. Whether the ruling made is the law of this case does not become material, because the reasons which actuated him in his decision are not only based upon sound principles, but are sustainable upon authority. No case has been cited where the distinction sought to be drawn has prevailed in the courts, but, on the contrary, apparently, wherever the question has arisen the holding has been the other way.”

The case last above cited went to the United States Circuit Court of Appeals for the Ninth Circuit and was there affirmed, the Court saying, among other things:

“The right to divert or appropriate for a useful purpose the waters of a nonnavigable stream is recognized by the laws of Montana and Wyoming, and by sections 2339 and 2340 of the Revised Statutes (U. S. Comp. St. 1901, p. 1437); and the broad principle which underlies the relative

rights of appropriators from the same stream is, that whoever is first in time is first in right, and the fact that the stream, the waters of which are appropriated, is interstate and nonnavigable, does not affect the rule."

Bean v. Morris, 159 Fed. 651, 655.

The same question arose between appropriators in different States (California and Nevada) in the case of *Miller, et al. v. Rickey, et al.* (C.C.) 127 Fed. 573. The Circuit Court held the rights of the parties unaffected by State lines. The case was taken to the Circuit Court of Appeals and there affirmed. The opinion of the Circuit Court of Appeals contains the following:

"The water in the stream, which has a propensity to seek its level, and will continue in its current to the sea, is in strict reality the veritable thing in controversy. It knows not imaginary state or county lines, and is a thing in which no man has a property until captured to be applied to a beneficial use. The right of appropriation is recognized in law, which means the right of diversion and use. It is the right, not to any specific water, but to some definite quantity of that which may at the time be running in the stream. So the right acquired by an appropriation includes the right to have the water flow in the stream to the point of diversion. The fact of a state line intersecting the stream does not,

within itself, impinge upon the right. In other words, the appropriation may still be acquired although the stream is interstate and not local to one state; nor will the mere fact that the stream has its source in one state authorize a diversion of all the water thereof as against an earlier and prior appropriator across the line in another state. On the contrary, one who has acquired a right to the water of a stream by prior appropriation, in accordance with the laws of the state where made, is protected in such right as against subsequent appropriators, though the latter withdraw the water within the limits of a different state."

Rickey Land & Cattle Co. v. Miller, et al.,
(C. C. A. 9th Cir.) 152 Fed. 11, 17.

So far as we can discover all of the courts of the arid region without any exception, whether state courts or Federal Circuit Courts or Federal Circuit Courts of Appeals, have thus agreed that prior appropriation gives priority of right without regard to State lines. And this ruling has been unaffected by general language in constitutions or statutes to the effect that the waters of streams are "declared to be the property of the state" or "property of the public". Such expressions are held to mean only that the waters are *publici juris*:—the property of the "negative community", in other words, belong to no one, until seized and beneficially used.

These are familiar ideas to all systems of law. The conception is further that he who first beneficially uses—he who first appropriates becomes the owner in the full sense that he thereby acquires a right of property—the right to use as against all others.

1 Wiel on Water Rights, Section 172.

The Decisions of This Court.

The question of the relative rights of two states and their citizens in the waters of a nonnavigable interstate stream in certain of its phases has come before this Court.

In the case of *Kansas v. Colorado*, 185 U. S. 125, and 206 U. S. 46, the question arose between states one of which maintains the doctrine of riparian rights, the other the doctrine of appropriation. The Bill of Complaint in that case is grounded largely on the claim that Kansas has the right to the uninterrupted flow of the river, while “the extreme contention of Colorado is that it has the right to appropriate all the waters of the stream for the purposes of irrigating its soil and making more valuable its own territory”.

While it seems to be contended that this Court did not in that case fully or clearly decide upon this “extreme contention” of Colorado—did not in terms decide whether or not Colorado as claimed in that case

and here has the “paramount right to the exclusive use of the water of her natural streams in so far as her necessities require the use of such waters for beneficial purposes within the state”, it must be conceded that at the very least this Court in that case *arguendo* takes strong grounds against the doctrine there and here claimed in favor of Colorado. In that case the whole spirit of the decision is against that extreme contention. Besides this general spirit the Court made use of the following language:

“Colorado could not be upheld in appropriating the entire flow of the Arkansas River, on the ground that it is willing to give, and does give, to Kansas something else which may be considered of equal value.” (Page 100.)

And at another place in that case this Court said:

“At the same time it is obvious that if the depletion of the waters of the river by Colorado continues to increase there will come a time when Kansas may justly say that there is no longer an equitable division of benefits and may rightfully call for relief against the action of Colorado, its corporations and citizens in appropriating the waters of the Arkansas for irrigation purposes.” (Page 117).

This language seems to be entirely inconsistent with any view that Colorado by virtue of her sovereignty or of any declaration in her constitution has the

right to the exclusive use of all waters within the State regardless of the effect upon other states or upon the citizens of other states.

The case of *Rickey Land & Cattle Co. v. Miller & Lux, supra*, came before this court on certiorari, 218 U. S. 258. This Court affirmed the decree. The opinion contains the following:

“It is conceivable, to be sure, that the decisions of this court may determine that the States have rights as against each other *in invitum* in streams that flow through the land of both. *Kansas v. Colorado*, 206 U. S. 46, 84. *Missouri v. Illinois*, 200 U. S. 496, 519, 520. These rights may vary according to the system of law required by natural conditions. They may be more or less analogous to common law rights between upper and lower proprietors, where irrigation is not necessary, as in most of the older States. See *New York v. Pine*, 185 U. S. 93, 96. There may be some, perhaps limited, right of appropriation in the upper State, at least in the watershed of the stream, where irrigation is the condition of using the land. See *Kansas v. Colorado*, 206 U. S. 46, 100-104, 117. But whatever this court may decide, if a private owner should derive advantage from such a decision it would not be in his own right, but by reason of and subordinate to the rights of his State, and those rights, the petitioner insists, can, or at least should be, determined only in a suit brought by the State itself.

* * * * *

We are of opinion that the petitioner fails to establish the conclusion for which it contends. The alleged rights of Miller and Lux involve a relation between parcels of land that cannot be brought within the same jurisdiction. This relation depends as well upon the permission of the laws of Nevada as upon the compulsion of the laws of California. It is true that the acts necessary to enforce it must be done in California and require the assent of that State so far as this court does not decide that they may be demanded as a consequence of whatever right, if any, it may attribute to Nevada. But, leaving the latter possibility on one side, if California recognizes private rights that cross the border line, the analogies are in favor of allowing them to be enforced within the jurisdiction of either party to the joint arrangement."

Likewise the case of *Bean v. Morris*, *supra*, was brought to this Court upon certiorari, (221 U. S. 485.) The decree as entered by the courts below was likewise affirmed in that case. The Court, among other things, says:

"We know no reason to doubt, and we assume, that, subject to such rights as the lower State might be decided by this court to have, and to vested private rights, if any, protected by the Constitution, the State of Montana has full legislative power over Sage Creek while it flows within that State. *Kansas v. Colorado*, 206 U. S. 46, 93-95. Therefore, subject to the same qualifi-

cations, we assume that the concurrence of the laws of Montana with those of Wyoming is necessary to create easements, or such private rights and obligations as are in dispute, across their common boundary line. *Missouri v. Illinois*, 200 U. S. 496, 521. *Rickey Land & Cattle Co. v. Miller & Lux*, 218 U. S. 258, 260. But with regard to such rights as came into question in the older States, we believe that it always was assumed, in the absence of legislation to the contrary, that the States were willing to ignore boundaries, and allowed the same rights to be acquired from outside the State that could be acquired from within. *Manville Co. v. Worcester*, 138 Massachusetts, 89. *Thayer v. Brooks*, 17 Ohio, 489. *Slack v. Walcott*, 3 Mason, 508, 516. *Stillman v. White Rock Manuf. Co.*, 3 Woodb. & M. 538. *Rundle v. Delaware & Raritan Canal Co.*, 1 Wall. Jr. 275, 14 How. 80. *Foot v. Edwards*, 2 Blatchf. 310. See *Wooster v. Great Falls Manuf. Co.*, 39 Maine, 246, 253, *Armondiaz v. Stillman*, 54 Texas, 623; *State v. Lord*, 16 N. H. 357. *Howard v. Ingersoll*, 17 Alabama, 780, 793. There is even stronger reason for the same assumption here. Montana cannot be presumed to be intent on suicide, and there are as many if not more cases in which it would lose as there are in which it would gain, if it invoked a trial of strength with its neighbors. In this very instance, as has been said, the Big Horn, after it has received the waters of Sage Creek, flows back into that State. But this is the least consideration. The doctrine of appropriation has prevailed in these regions probably from the first moment that they knew of any

law, and has continued since they became territory of the United States. It was recognized by the statutes of the United States, while Montana and Wyoming were such territory, Rev. Stat., Secs. 2339, 2340, p. 429, Act of March 3, 1877, c. 107, 19 Stat. 377, and is recognized by both States now. Before the state lines were drawn of course the principle prevailed between the lands that were destined to be thus artificially divided. Indeed, Morris had made his appropriation before either State was admitted to the Union. The only reasonable presumption is that the States upon their incorporation continued the system that had prevailed theretofore, and made no changes other than those necessarily implied or expressed. See *Willey v. Decker*, 11 Wyoming, 496; *Smith v. Deniff*, 24 Montana, 20."

It does not seem to us that the case of *Hudson Water Company vs. McCarter*, 209 U. S. 349, cited by counsel, has anything contrary to the contentions of complainant here. That case was based largely upon the principles underlying the doctrine of riparian rights. The opinion itself states, "the problems of irrigation have no place here." The attempt which was enjoined in that case was an attempt of a riparian proprietor to divert and take away to a long distance a very substantial portion of the stream. The holding by the State Court was "that a riparian proprietor has no right to divert waters for more than a reasonable

distance from the body of the stream or for other than the well known ordinary uses and that for any purposes in general he is narrowly limited in amount." This statement of the doctrine seems to be concurred in by this court. The case was not one where the state was seeking to divert the water of the stream so as to injure those below, but, on the contrary, the state, in its own right and in the right of the riparian owners below, sought successfully to prevent the diversion of the stream.

APPLYING THE PRINCIPLES MAINTAINED BY THE COURTS.

Both Colorado and Wyoming have held that the doctrine of prior appropriation of waters through the very necessities caused by the arid conditions prevailing, were in force throughout this region long before any constitutional provision was adopted or statute enacted on that question. Both states hold that he who first applies the waters to a beneficial use thereby acquires a property right prior and superior to the rights of all others who may come afterwards to those waters. The laws and customs of the two States concur. The constitutions of the two States contain similar terms upon the question, and the courts of both States hold

that these constitutional provisions enact nothing new but merely declare that which was the rule before. The rule and custom had in the beginning no regard to state boundaries; indeed it was recognized and prevailed when there were no state boundaries. There is no legislation in either state restricting the rights acquired to lands within its own boundaries.

These States touch one another along a line more than two hundred and fifty miles in length. Both States are at the summit of the continent. Across the boundary line between them some of the streams flow southward and some flow northward. Indeed about two-thirds of that line sees its streams arising in Wyoming and flowing southward into Colorado. Along about one-third of the line the streams originate in Colorado and flow into Wyoming. Throughout practically the entire line bounding Wyoming on the East, North and West Wyoming is the upper state. Her mountains and plains gather the water into streams and pour them into the domains of her neighbors. So the plaintiff is not here asking the enforcement of any right which shall work out advantageously to her alone.

For the moment we may waive for the purposes of the argument the question of the extent to which Colorado might go by appropriate legislation in the way of appropriating all of the streams of the State

as she might choose regardless of the destruction thereby wrought in other states. These facts would still remain.

1st. That Colorado has not so legislated.

2nd. That she concurs with Wyoming in the proposition that the very necessities of the region created the principles underlying appropriation which operated throughout the entire region before the States were in being and without regard to state lines.

3rd. That growing out of this absence of legislation coupled with this necessity and the resulting laws and customs, it must be assumed that Colorado has ignored and been willing to ignore boundaries and allow "the same rights to be acquired from outside the state that could be acquired from within".

Upon this assumption plaintiff and her citizens had a right to rely. They began the use of these waters long before there was any state boundary between the lands now in Colorado and those in Wyoming, and have continued till now. They applied these waters to a beneficial use long before any thought of using them came to the defendants. By such use Wyoming and her citizens have built up and are maintaining within the water shed a large and prosperous community. Such a community and the values they have created and are sustaining are substantial and give

substantial rights such as a court of equity will regard even in a contest between states. The defendants seek to destroy this community and these values, not because of any prior use of the water by them, but for the purpose of beginning in the future a new use of these waters. They seek to make fertile in the future lands which are now arid,—to create in the future a community where there is now a desert, but to make fertile this new region and build this new community in Colorado they restore to the desert a region which has already been reclaimed and destroy the community already built up in Wyoming. And this water is to be used by the defendants in the future, not upon riparian lands where some compensating benefit might accrue to the complainant, but entirely outside of the water shed at points so remote and so situated that no part of the water taken can in any way reach or benefit complainant or its citizens.

**COLORADO MAY NOT NOW DIVEST COM-
PLAINANT AND HER CITIZENS OF
THESE PROPERTY RIGHTS.**

All of these appropriations of water by complainant and her citizens became vested property rights before the diversion charged in the Bill was threatened.

Upon the facts alleged all the courts agree that this result was accomplished. These property rights became so vested at a time when there was neither constitution nor statute of Colorado expressly or otherwise refusing her assent to a rule and principle which had been in operation from the beginning throughout the region with no limitations by artificial boundaries.

Colorado may not now if she would, by any act of her legislature or people, without process of law, take away these vested property rights. Indeed she has not attempted it. Her administrative officers alone without any legislative declaration, are claiming here their right as representatives of Colorado to create the disaster to Complainant and her people. No action of these can operate to overcome the presumption that Colorado concurs with Wyoming in ignoring boundaries, even if such presumption were necessary.

THE GENERAL SOVEREIGN RIGHTS OF COLORADO WITHIN HER OWN BOUNDARIES.

But Counsel quote from the case of *Kansas v. Colorado* the following:

“The powers affecting the internal affairs of the States not granted to the United States by the

Constitution nor prohibited by it to the States are reserved to the States respectively and all powers of a national character which are not delegated to the National Government by the Constitution are reserved to the people of the United States."

In the language above quoted this Court was not speaking of the rights of a state as against its neighbors. The question there discussed grew out of a contention by counsel for the **GENERAL GOVERNMENT** that in some way a superior right was vested in the United States as a sovereign "to control the whole system of the reclamation of arid lands" as against the states. The language quoted had to do with the powers conferred by the constitution upon the General Government. It had nothing to do with the question how far a state might invade, or ignore private rights or the rights of other states.

SOME THINGS FORBIDDEN TO STATES.

It is manifest that there are many things injurious to her neighbors which no state may do even within her own boundaries.

Missouri v. Illinois, 180 U. S. 208; 200 U. S. 496.
Kansas v. Colorado, 185 U. S. 125; 206 U. S. 46.
Rhode Island v. Massachusetts, 12 Peters 720.
Georgia v. Tennessee Copper Co., 206 U. S. 230.

It is equally clear that general discussions as to the powers granted and powers reserved as between the states and the General Government are of little, if any, service in drawing the line between permitted and prohibited injuries by one state to its neighbor.

Nor is it true that controversies between states must be determined by the rules of strict legal right as distinguished from equitable principles. This court has jurisdiction of controversies between two states, not only such as arise at law but also such as arise in equity.

The plaintiff contends that the defendants are invading her rights. Of course before it arises to such dignity as to require redress here such an invasion must cause substantial injury, and it may be that substantial injury to a state must be weighed on different scales from those used in weighing injuries to individuals. But here the damage threatened we submit is substantial even in a controversy between states, and we submit that the substantial character of the right and damage being as shown, the equities of these states rest largely upon principles similar to those underlying equities between individuals. And in controversies between individuals all the courts of the arid region, State and Federal, unite, as we have seen, in sustaining the equities and redressing the grievances

such as these brought to the attention of this Court.

(b) THE RULE OF EQUITABLE APPORTIONMENT.

Counsel discuss in their brief the rule applied in the case of *Kansas v. Colorado* allowing to the upper state the right to use the waters of the stream in such way as not unreasonably to diminish the flow reaching the lower state.

It seems to us that this use of the *Kansas-Colorado* case ignores the caution given by the opinion in that case. The opinion warns that "the views expressed in this opinion are to be confined to a case in which the facts and the local law of the two states are as here disclosed". This warning is coupled with the discussion of the local law as decided by the courts of last resort of the two states. The rule of riparian rights as decided by the Supreme Court of Kansas was by this Court deduced from the opinion in *Clark v. Allaman*, 71 Kansas 206, considered in connection with a quotation therein from observations by Chief Justice Shaw in *Elliott v. Fitchburg Railroad Co.*, 10 Cush. 191. The riparian doctrine as held by Kansas was thus found to recognize "the right of appropriating the waters of a stream for the purposes of irrigation subject to the condition of an equitable division between the riparian proprietors." And this Court after show-

ing that to be the rule in Kansas declares that that state "cannot complain if the same rule is administered between herself and a sister state". Therefore it was that the rule of "equitable division" was adopted in that case. The divergence between the laws of Kansas and those of Colorado left no room to base the decision upon any principle concurred in by both. There was no principle held by Colorado which could be so used as to mete out justice and equity to Kansas with its different rule as to waters. Therefore the Colorado contentions seem to have been rejected. The riparian doctrine as held by Kansas was found to do equity both to Colorado and to Kansas, and therefore that doctrine was adopted.

In the case at bar both states have always held that it is just and right and equitable that the first appropriator shall be protected in his appropriation, that it is inequitable for anyone who afterwards attempts to use any waters of the stream to so use them as to interfere with the full use of the prior appropriator. Colorado has always freely granted equitable relief to protect the prior appropriators against any interference. How can she here complain "if the same rule is administered between herself and a sister state". Colorado when settling controversies between individuals has always insisted not only that this rule is

equitable but that every other rule is inequitable. Why shall she not herself submit to do that which is right? Wyoming has always held to the same rule and could not ask, and does not ask the application of any other rule here.

It seems to us, therefore, that the only rule of "equitable division" which actually does equity between these parties is the rule of prior appropriation.

(3) CERTAIN ANCILLARY QUESTIONS.

We will next discuss certain questions which counsel discuss in their brief and which though material are in relation to matters other than those of first importance on the merits.

(a) *The sufficiency of the Bill to show prior appropriation.*

It is claimed by counsel here that the Bill does not state a cause of action under the doctrine of prior appropriation. For this contention they cite the following cases:

Farmers High Line Canal & Reservoir Company,
et al. v. Southworth, 13 Colo. 111.

Church v. Stillwell, 12 Colo. App. 43.

Carroll v. Vance, 39 Colo. 216.

Wutchumna Water Co. v. Pogue, 151 Cal. 105.

In each of the cases cited the averment was merely and only that the plaintiff appropriated. No fact was given as to time, or manner, or application to beneficial use. We have no quarrel with the rule as quoted by counsel from one of the Colorado decisions, as follows:

“In pleading an appropriation, it is necessary to plead the facts which constitute the appropriation.”

Nor with that other statement quoted from another Colorado case, as follows:

“In a suit to determine the priorities of such right, it is not sufficient for the plaintiff to merely allege in his complaint that he has the priority of right. That is a legal conclusion. He must specifically aver all of the substantive facts which are necessary to constitute such priority.”

Counsel quoted from a single averment in the Bill here which alleges the extent of the appropriation, viz., that the plaintiff and its citizens had appropriated the waters of the river for the actual irrigation of 325,000 acres of land. The Bill on page 9 alleges that:

“For many years prior to the commencement of said wrongful acts the lands in Wyoming lying along the said Laramie River and its tributaries and in its drainage basin had been settled, cul-

tivated, improved and rendered highly productive *by the practice of irrigation and the use of the waters of the said Laramie River and its tributaries for the irrigation of the said lands.*”

Here we have the statement of the actual application of the water to the lands by irrigation, which is in itself an appropriation provided such application results beneficially. There is also the averment here that this application of the waters in the way of irrigation was many years prior to the commencement of the wrongful acts of the defendants, so that without stating it as a conclusion of law, the facts are here alleged making the appropriation prior and superior to the appropriation by the defendants, which, as the averment is, began many years later.

On page 15 of the Bill the allegation is made that the use of the waters in irrigation is beneficial, and that the taking away of the waters would be destructive to the values of the lands. The allegation is in these words:

“And your Orator further avers that without the use of the said waters as aforesaid the lands of your Orator and its citizens within the said water shed within the State of Wyoming would be to a very large extent valueless and incapable of supporting any considerable population, and

that with the use of the said waters as aforesaid, the said lands are very valuable, to-wit, of a value of more than ten million of dollars, and support a large population, to-wit, a population of more than twenty thousand people, and that the wrongs and threatened wrongs of the said defendants as hereinafter set forth if persisted in would render the lands of your Orator and its citizens in the said water shed and drainage basin to a very large extent valueless."

The things necessary to constitute prior appropriation are these three.

1st. The water must have been applied upon the lands.

2nd. The use must have been beneficial.

3rd. This must have been accomplished prior to the application of the same waters by those who are sought to be made junior.

Wiel on Water Rights 3rd Ed. Sec. 365, and cases there cited.

All of these facts which constitute the prior appropriation are alleged in the Bill outside of the paragraph quoted by counsel. Having alleged these facts, it was not improper for the Bill in the paragraph quoted by counsel to draw the legal conclusion that there was

an appropriation and that it was prior to any right in the defendants.

(b) *The question as to the place of use.*

For the general purposes of the discussion here at this time we might well waive all contention with counsel in relation to the materiality of the place of use of the water. We might here for the purposes of the argument concede that the rule defining rights between appropriators disregards the place of use and permits water to be diverted from the water shed of one stream to the water shed of another. Even so, this is but a subsidiary rule to the general doctrine of appropriation and is applicable only where the doctrine of appropriation is adopted. This subsidiary rule, moreover, has the following conditions precedent.

First. The new diversion must not injure any prior appropriator.

Atchison v. Peterson, 20 Wallace 507, 514.

Wellington v. Beck, 30 Colo. 409.

Wellington v. Beck, 43 Colo. 70.

Telluride v. Blair, 33 Colo. 353.

Wiley v. Decker, 11 Wyo. 496.

Second. If any appropriator would change the place of use of his waters, he may do so only in case he so changes the place of use as not to injure any other appropriator, either prior or subsequent.

New Cache La Poudre Irrigating Co. v. Water Supply & Storage Co., 49 Colo. 1.

Johnston v. Irrigating Co., 13 Wyo. 208, 237.

In this case under the averments of the Bill the diversion is practically a new diversion, and is destructive of the rights of complainant and her citizens who are prior appropriators.

The plaintiff might well complain against new appropriations within the water shed provided those new appropriations became injurious to her rights. But it was found, as the Bill alleges, that so far as water has heretofore been diverted for use in the water shed seventy-five per cent. of it returns to the stream. It was further found that the area within the water shed in Colorado upon which waters might be used, so far as the plaintiff now knows is not great, nor did the plaintiff find any threatened diversion for use within the water shed concerning which she felt it necessary to complain. The whole complaint, therefore, was that the defendants are threatening now to take water in such way as to greatly injure the plaintiff and her citizens, and to interfere with their prior appropriations, and one element in the matter of working injury is the fact that the threatened diversion will take the waters far beyond the water shed so as to increase greatly the injury that would otherwise be sustained.

We respectfully submit that the Bill states a cause of action; that the invasion of the rights of the plaintiff is of such magnitude as to entitle her to relief, and that the demurrer to the Bill should be overruled.

DOUGLAS A. PRESTON,

*Attorney General of the State of Wyoming
and Solicitor and of Counsel
for the Plaintiff.*

N. E. CORTHELL,

JOHN W. LACEY,

Of Counsel.

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In the Supreme Court of the United States.

No., Original.

IN EQUITY.

THE STATE OF WYOMING, COMPLAINANT,

vs.

THE STATE OF COLORADO, THE GREELEY-
POUDRE IRRIGATION DISTRICT, A MUNI-
CIPAL CORPORATION, THE LARAMIE-POUDRE
RESERVOIRS AND IRRIGATION COM-
PANY, A CORPORATION, DEFENDANTS.

BRIEF OF DEFENDANTS ON DEMURRER.

STATEMENT.

The rapid development of irrigation in that part of the United States formerly known as the Great American Desert has given rise to a variety of perplexing problems. Not that the problems themselves are new, for they are not, any more than irrigation itself is new. From the very beginning of the human race we find evidences that the artificial use of water

for growing crops was one of the first steps taken in the development of civilization. All of the great civilizations in the early history of mankind arose in countries where the rainfall was either so slight or so precarious and uncertain that the artificial application of water to land in order to raise crops was a necessity from the very beginning, and a necessity which constantly grew as the nation and its civilization grew.

Thus, there are innumerable quotations in the Old Testament pointing to a knowledge of irrigation; the laws of King Hammurabi of Babylon, unearthed comparatively recently, contained a complete irrigation code, and we know that irrigation was practiced in the valleys of the Tigris and Euphrates from a very early date. The old Chinese, Indian and Egyptian peoples were irrigators; in later days, both Carthage and Rome diverted water for domestic uses and for irrigation. Ruins of old irrigation systems are found all through northern Africa, in Peru and in Mexico. Irrigation has been practiced in Spain at least since the time of the Moors, and probably before; and in Italy, the valley of the Po has been irrigated since about 1100, there being one irrigation ditch at least still in use which is over 800 years old.

In all of these countries we find the development of irrigation closely paralleling in all essential respects our own development in the western part of this country. The same engineering and hydraulic questions have been met and overcome, and the same difficulty has been experienced in molding laws to fit the constantly increasing use and value of water. Indeed, a striking instance of this has come down to

us from Roman times and has found a permanent place in our language. In old Roman days an artificial water channel, and therefore a ditch, was a *ricus*, and the users from such a water-course were *rivals*; and the word still retains its suggestion of the constant struggle for water which apparently characterized the fellow-irrigators of those days, as it does those of our day.

In tracing the history of irrigation, we find that the first use of water is made by small individual ditches which water the land immediately adjacent to the stream. As civilization progresses and a larger amount of land is to be called into requisition to support the needs of the people, these ditches are extended.

By being taken out farther up the river they can be made to cover more land. This means, of course, a longer ditch and greater expense, and then the element of co-operation enters, and associations, and in later history companies, are formed to construct these ditches and divert the water. As the needs continually increase, the question of storage of flood waters, and of water during the season when it is not required upon the land, arises, and reservoirs are constructed. Later the people, in the constant search for more water, turn to other streams, and irrigation reaches the stage where great rivers are turned from their course and made to pass over or through mountain ranges, in order to bring the water into the region where it can be of the greatest amount of service. There are cases of this last-mentioned development in India, China and Italy.

In our own country this same development has been taking place, the only difference being that it has probably gone ahead much more rapidly here than in any other instance in history, due partly to the tremendous advances that have been made in all lines of science, and partly to the character of the Anglo-Saxon race, which has for the first time seriously taken up the science of irrigation. In their home of centuries in middle and northern Europe and in the British Isles, the Anglo-Saxon race and the allied Germanic races have not been called upon to meet this particular problem of applying water to land for the raising of crops, and in the early settlement of this country, in its eastern half, there was no necessity for such a practice. It was only when the Mormons, driven out from their eastern settlements, started to found an empire in the deserts of Utah, where at last they were sure that the unsympathetic civilization of the Gentiles would never reach them, and a little later when the discovery of gold in California brought thousands of settlers from the East, who had to be fed from a soil which, without the artificial application of water, was sterile and barren, that irrigation began in the United States.

The early Californians learned the value of water from their mining, where, both in placer and hydraulic mining, water was diverted and used before it was dreamed of applying it to the land for agricultural purposes. In Utah, however, the use of water for irrigation was instinctive, and our irrigation really had its beginning there. As this court, however, knows from the evidence in the case of *Kansas vs. Colorado*, there was irrigation in parts of New Mex-

ico and Arizona long before any settlement of the western portion of the country by the Anglo-Saxon race. But it is from the irrigation in Utah and California that the beginning of our present irrigation history should be dated. The development of irrigation here has followed the course which we have mentioned before—starting out first with irrigation of small tracts of land on the banks of the stream from which the water is taken, extending constantly farther and farther back from the stream, accompanied by the building of larger ditches, by the formation of irrigating companies and irrigation districts, and finally, when the enterprises grew too gigantic, to the entry into the field by the government itself.

Never in the history of irrigation have works of such magnitude, or enterprises of such daring or ingenuity, been projected or carried through as within the last sixty years. Reservoirs have been built until the flood waters and the winter flow of our streams are as fully appropriated as the ordinary flow of the streams during the irrigating season; and now the waters of the streams of the West are, when necessary, being carried across ranges of mountains by miles of ditches, or through the mountains by long tunnels, in order that every drop of water, so far as possible, shall be taken where it can be used; and not only where it can be used, but where it can be used with the least waste and largest return. In this stage of the work, some of the tremendous undertakings of the Reclamation Service are good examples.

In what is known as the Strawberry Project in Utah, the headwaters of Strawberry Creek are stored and diverted from the Green River drainage through

a tunnel 19,200 feet long, in the Wasatch Range, into Diamond Creek, a tributary of Spanish Fork River, and there used to irrigate lands draining into Utah Lake, at a cost of over three million dollars.

In what is known as the Milk River Project, the government is taking water from St. Mary's River, which rises in northwestern Montana and flows north into Canada, emptying into the Saskatchewan River. This water is to be taken over the Continental Divide by a canal twenty-six miles in length, into the north fork of the Milk River, which flows into the Missouri River, and carried down the Milk River over 100 miles. In this course it passes from the United States into Canada, and then back into the United States, before being diverted upon the lands to be irrigated. The total cost of this project is estimated at six million, two hundred thousand dollars.

In California the development of great centers of population is forcing a search for water and a tremendous diversion, as in the case of Los Angeles, where the water of the Owens River is being taken from the east side of the Sierra Nevadas to the Pacific slope, and thence to the city of Los Angeles, at a cost of twenty-five million dollars. The city of San Francisco has long been getting its water from the hills south of the city and bringing it to a different watershed; now it is proposed to go very much farther for a similar purpose, at tremendous expense. Some of the great cities of the East have done much the same thing. Thus, New York City has taken water from numerous small watersheds, all tributary to the Hudson; while Chicago takes water from the watershed of the Great Lakes and discharges it by canals into

the watershed of the Gulf of Mexico—a fact which was commented on by this court in the case of *Missouri vs. Illinois*, 180 U. S., 208; *ibid.*, 200 U. S., 496.

The part which Colorado has played in this tremendous development of irrigation can hardly be overestimated. Situate on the very crest of the Continental Divide, with a climate which makes irrigation necessary for every acre of land which is to be cultivated, and with a soil which, when the water is applied, produces with an abundance undreamed of in less-favored localities, Colorado was quick to see the necessity of irrigation, and as quick to take advantage of her knowledge. The people early saw the futility of attempting to combine irrigation with the doctrine of riparian rights with which California was struggling, and, after declaring the water to be the property of the people of the State of Colorado, set at work at once to utilize that water to the greatest possible extent for the common good. Since then Colorado has to her credit a greater number of tremendous irrigation enterprises and a more widely developed system of irrigation than any other state in the Union. The various stages in the development of irrigation have been met and, after their problems have been grappled with, have been passed. The carrying of water from one watershed to another is not new in Colorado, nor in the history of irrigation elsewhere. It has been practiced here in a great many instances, and the Supreme Court of Colorado was probably the first court to pass upon such a question in the case of *Coffin vs. The Lefthand Ditch Company*, 6 Colo., 443.

The present project, which the State of Wyoming is now seeking to enjoin, is another project for the transfer of water from one watershed to another, at a cost of about five million dollars, and is similar to many of the instances mentioned above. The waters of some of the tributaries of Laramie River in Colorado are proposed to be brought through a tunnel in the Continental Divide to the plains of eastern Colorado and there used for irrigation. The State of Wyoming, which, as we shall see later in this brief, has been doing exactly the same thing for a number of years, following the lead of Colorado, though on a smaller scale, since the development of Wyoming has not kept pace with the development of Colorado, is now objecting to this diversion upon a theory which seems to be a blend of the doctrine of appropriation with the doctrine of riparian rights, and which results in her taking a position not unlike the position which was taken by Kansas in the case of *Kansas vs. Colorado*; namely, that under some doctrine of riparian rights as between states, Wyoming is entitled to have the water come down to her from Colorado without diminution, in order that her citizens, under the doctrine of appropriation, may apply the water to irrigation.

It is unnecessary to point out to this court that the use of water for irrigation has always raised legal questions of peculiar perplexity and interest. This seems to have been the case in all nations from what records we have, though the difficulty was perhaps not so striking, since in those cases the doctrine of irrigation generally grew up with the legal history of the nation, and where there were any such diffi-

culties there was always a supreme law-making power which was not embarrassed by any troublesome constitutional questions. In this country, however, the difficulties have been and still are great. The doctrine of irrigation has not grown up with the Anglo-Saxon people nor with their laws. It has arisen *ex necessitate rei*. Our people found themselves face to face with conditions which the English people had never before faced, and for which the common law in its great mass of decisions had no adequate theory. Our system of law, however, has been sufficiently assimilative to incorporate this doctrine of appropriation and to harmonize it with the rest of our body of law, in much the same way that it absorbed the new system of law which grew up out of the customs of miners in California and finally developed into our law of mining rights. Yet, in the law of irrigation the difficulties have been greater, since it has brought into being questions which never existed in the mining law; that is, questions between states.

It is obvious that these questions could not arise in the early history of irrigation in this country, the early irrigation being merely upon lands immediately joining the river, and the irrigated land being comparatively small in quantity. The results of irrigation in one state upon another state were not felt for a number of years, until the area of irrigated land had broadened, and until the scarcity of water and its value had grown tremendously. Nor do we yet know at all fully what the result of irrigation in one state is upon the stream in another state. How far the use of water in the upper state and the conserving of water by reservoirs is a benefit instead of a detriment

to the lower state, is a question which, as this court will remember, was involved in the Kansas-Colorado case, but as to which there is still a great deal of speculation among expert engineers. In other words, we are at that period when the states are beginning to be alarmed about the diversion of water in an upper state; and yet this diversion has not continued long enough, or been sufficiently fully observed, so that the damage or benefit, as the case may be, can be authoritatively stated, or the remedy (if remedy is necessary) prescribed.

Naturally Colorado is the center of these attacks, both because of her geographic location, being the upper state in regard to all streams and the lower in regard to none, and because, on account of the advance which she has made in irrigation, she is making more use of her water than most of the states, and therefore is the first one against which complaints are directed.

This litigation over water between states is therefore of recent growth. The ultimate question involved had been foreshadowed for some time before the case of *Kansas vs. Colorado* by a number of suits in both the federal and state courts between individual appropriators upon the same stream in different states. All of these cases in the federal courts, and some of the state cases, have been decided by applying the doctrine of priority of appropriation between the contending appropriators, without regard to state lines. The difficulty of this doctrine, however, can be seen at once, and was seen very plainly when the states themselves finally entered the field and the case of *Kansas vs. Colorado* was instituted

in this court. The doctrines of priority of appropriation are not the same in all of the states. The right does not date from the same acts, and the question of procedure necessary to gain a right is entirely different. Moreover, some states have attempted to combine the doctrine of appropriation with the doctrine of riparian rights, making a still greater difficulty in adjudicating rights in different states; but with the Kansas-Colorado case the chief difficulty was immediately apparent. If, as this court has held, a state has a right to sue to restrain a diversion of water by an upper state, or, at least, if this is a proper matter to be tried out between the states themselves; and if, as must be the case, a private appropriator's right is subordinate to, and dependent upon, the right of his state, how can the rights of private appropriators in different states be determined until the rights of their respective states are fixed? In the case of *Kansas vs. Colorado* these questions, while they would naturally suggest themselves, could not be determined, since Kansas was basing her claim upon a doctrine of riparian rights as against the doctrine of appropriation in Colorado. In this case for the first time is presented a question of right as between two states, both of which have adopted the appropriation doctrine.

Both states desire this water for the same purpose, and this presents squarely the question: Upon what basis are the rights of the states to the waters of interstate streams to be determined? It seems to us that there are only three positions which can possibly be taken upon this matter, and from which the doctrine which this court shall decide to be the law must be taken. These doctrines are as follows:

First—This matter is to be viewed as between two sovereign nations; sovereign in so far as they have not surrendered their sovereignty by the Constitution. This is not one of the matters in regard to which sovereignty was surrendered, and each state, therefore, has exactly the same right to the development and use of its natural resources as one independent nation has against another, and that is the right to the fullest use and enjoyment of all resources within its own borders, without regard to any effect such use and enjoyment may have upon a neighboring sovereignty.

Second—Although the question is one between two sovereignties, yet the sovereignty of each state is under some limitations. While each state has full authority over its own natural resources, yet it must use those resources in such a way as not to unreasonably diminish the resources of its neighboring state.

Third—The question should be settled upon the law of prior appropriation in regard to the particular appropriations in question, and without regard to state lines.

That this is a question between two sovereignties, and therefore falls within one of the first two theories given above, is, we think, conclusively settled by the case of *Kansas vs. Colorado*. The third doctrine is the one laid down in the early federal cases in the Circuit Courts and the Circuit Courts of Appeal between private parties, and practically amounts to a federal regulation, or at least to a federal adjudication, of all priorities upon a stream, regardless of state lines.

If the first doctrine, which we contend is the law as between states, is adopted, it is obvious that the bill in this case presents no ground for relief on behalf of the state of Wyoming. We think it is equally plain, however, that under either of the other two doctrines the bill is also defective in failing to present any case for relief, and we shall therefore discuss these doctrines in the order above given, and also discuss the allegations of the bill in reference thereto.

BRIEF AND ARGUMENT.

I.

The State of Colorado, as one of the sovereign states of the Union, has the right to control the waters of the non-navigable streams of the state without interference by any other state.

Colorado is situate upon the crest of the Continental Divide. Six interstate streams of considerable size take their rise in its mountains: the Grand River, running westerly into the State of Utah, and there forming a junction with the Colorado; the Laramie, flowing in a northerly direction into the State of Wyoming; the South Platte, flowing northeasterly into Nebraska; the Arkansas, easterly into Kansas; the Animas, southerly into New Mexico; also the Rio Grande, having its source in the Rocky Mountains, flowing southerly into New Mexico and forming the boundary between the United States and the Republic of Mexico. None of these streams are navigable.

Colorado is essentially an arid state, incapable of growing crops except by irrigation. The precipitation

is light, varying in the farming districts from an annual minimum of eight to fourteen inches, according to the locality, to an annual average in the higher mountains of about twenty-five inches, making a general average for the entire state estimated at 14+ inches.

According to the last census, Colorado contained a population of 799,024. While much of this population was originally attracted to the state by its mining resources, these interests have become less and less important in the passing years, and it may be conservatively stated at the present time that the entire population is either directly or indirectly dependent for its very existence upon irrigation.

In another part of this brief we shall urge that if the rule of equitable apportionment shall control, the topography of the state is such that, in so far as the Laramie River is concerned, it is a physical impossibility for Colorado to secure an equitable proportion of the waters of that stream; and if it were within the issues, we think it could likewise be demonstrated that as to other streams the same is true, and that an equitable apportionment would allow Colorado the use within her borders of all the waters of the streams having their sources within the state, leaving to the lower states, with their greater precipitation, all the waters falling within their borders, together with such surplus water as may be discharged in times of flood, and at other periods when the water is not required for beneficial purposes by the upper state.

Considering the several states of the Union as independent sovereignties, we shall endeavor to show that, under the rules, principles and precedents of international law, the State of Colorado as a sovereign

state has a right to the use of the waters of all its natural streams, so far as the same may be necessary to economically and yet fully develop the resources of the state. We shall then contend that this principle of international law has not been modified, set aside or annulled by the Federal Constitution, in so far as the issues in this case are concerned.

The nature and scope of such sovereignty, with respect to judicial jurisdiction, which is one of its elements, is well set forth by Chief Justice Marshall in the early case of the Schooner "Exchange" vs. *McFaddon*. The case involved the inquiry as to whether an American citizen could assert in an American court a title to an armed national vessel, found within the waters of the United States, and upon this question the great chief justice said, at page 135:

"The jurisdiction of courts is a branch of that which is possessed by the nation as an independent sovereign power. The jurisdiction of the nation, within its own territory, is necessarily exclusive and absolute; it is susceptible of no limitation, not imposed by itself. Any restriction upon it, deriving validity from an external source, would imply a diminution of its sovereignty, to the extent of the restriction, and an investment of that sovereignty, to the same extent, in that power which could impose such restriction. All exceptions, therefore, to the full and complete power of a nation, within its own territories, must be traced up to the con-

sent of the nation itself. They can flow from no other legitimate source."

Schooner "Exchange" vs. McFaddon
et al., 7 Cranch, 116, p. 136.

The question under consideration is very ably discussed in an opinion rendered by Judson Harmon while attorney general in 1895. The Mexican minister had complained upon the ground that the city of El Paso del Norte had for about three hundred years enjoyed the use of the waters of the Rio Grande for irrigation, while quite recently ditches for similar purposes had been constructed in Colorado and New Mexico and used with the effect of diminishing the water supply at El Paso del Norte, thus reducing the price of land and causing other damage. The claims of the injured parties were asserted for them by the Republic of Mexico, and upon a resolution of Congress the matter was submitted by the secretary of state to the attorney general of the United States for his opinion. In the opinion the authorities upon international law are reviewed and are shown to impose no duty or obligation upon the United States requiring it to prohibit its inhabitants from the use of the water of that part of the Rio Grande lying entirely within the United States, although such use results in reducing the amount of water below in the Republic of Mexico. It was also concluded that the fact that there is not enough water in the Rio Grande for the use of both countries for irrigation purposes does not give Mexico the right to subject the United States to the burden of arresting its development and denying to its inhabitants the use of a provision which nature has supplied entirely within its own territory; that the

recognition of such a right would not be consistent with the sovereignty of the United States, as "the fundamental principle of international law is the absolute sovereignty of every nation, as against all others within its own territory."

Opinions of the Attorneys General, Vol.
21, p. 274.

Hilton vs. Guyot, 159 U. S., 113.

International servitudes are upheld by some authorities, such as Heffter and Phillemore, while others, like Grotius and Woolsey, deny their existence apart from an agreement; but, as between the states, the right is only recognized on the assumption of a concurrence between the two states, the one, so to speak, offering the right, the other permitting it to be accepted.

Manville Co. vs. Worcester, 138 Mass., 89.

In the case at bar Colorado has by its Constitution, statutes and decisions expressly repudiated the right, as we shall hereafter show; hence an entirely different question is presented.

1 Phillemore, Int. Law, p. 303.

Heffter, Droit Int., sec. 43.

Letters of Grotius, 2 Hert, p. 106.

Woolsey's Int. Law, sec. 58.

Missouri vs. Illinois, 200 U. S., 521.

This brings us to the consideration of the question as to whether the same rule should be applied to interstate streams between the sovereign states of the

Union as between two independent nations with reference to international streams.

The first settlers in Colorado found that the land, outside of a few small valleys in the mountains, was a desert in its natural condition, incapable of sustaining any considerable population. They soon learned, however, that by taking the water from the streams and applying it to the soil the land became very fertile and wonderfully productive, and the custom of appropriation became established, together with certain well-recognized rules and customs governing its use. These rules and customs were so just and appropriate to the situation that they soon became the basis of decision by the courts.

It has been held by this court, as well as by the Supreme Court of Colorado, that the right to use the water for the purpose of irrigation, mining and manufacturing was a right that grew out of the necessities of the people, and existed before it was written into the Constitution and laws.

Broder vs. Water Co., 101 U. S., 274.

Yunker vs. Nichols, 1 Colo., 551.

Coffin vs. Left Hand Ditch Co., 6 Colo., 443.

In this manner water was given a new status; to-wit, the status of property devoted to the public use. Later, the Constitution of the State of Colorado and other states declared the water an asset and resource of the state, subject to appropriation by its citizens for beneficial uses.

"Water Public Property—The water of every natural stream not heretofore appropriated, within the state of Colorado, is hereby declared to be the property of the public, and the same is dedicated to the use of the people of the state, subject to appropriation as hereinafter provided."

Constitution of Colorado, Art. XVI,
sec. 5.

"Water being essential to industrial prosperity, of limited amount, and easy of diversion from its natural channels, its control must be in the state which, in providing for its use, shall equally guard all the various interests involved."

Constitution of Wyoming, Art. I, sec.
31.

"The water of all natural streams, springs, lakes or other collections of still water, within the boundaries of the state, are hereby declared to be the property of the state."

Constitution of Wyoming, Art. VIII,
sec. 1.

In reference to the Colorado Constitution the Supreme Court has said:

"All unappropriated water in the natural streams of the state is dedicated to the

use of the people and the ownership is vested in the public."

Wheeler vs. Northern Colo. Irr. Co.,
10 Colo., 587.

"The provisions of the Constitution are so plain that no construction whatever is needed. All unappropriated waters in these streams belong to the state, the public, the people."

Wyatt vs. Laramer-Weld Irr. Co. et al., 1 Colo. App., 480-494.

Every legislative and judicial declaration in Colorado having reference to the streams of the state and the use of the waters thereof, since the Constitution was adopted, has been in recognition and affirmation of the doctrine that the entire flow of the water within the state is impressed with a public use for the benefit of the state and the people thereof. The statutes concerning the adjudication of priorities, of rights to water, contemplated the appropriation of all the waters flowing in Colorado for use on lands in Colorado. The statutes creating the offices of state engineer, division engineer and water commissioner, and authorizing them to control the distribution of the water of the several streams, are all based upon the assumption that the water belonged to the state. These statutes either in terms declare or by implication assume that the districts are restricted to lands within the state and not elsewhere.

Lampson vs. Vailes, 27 Colo., 201.

Turley et al. vs. Furman et al. (N. M.),
114 Pac., 278.

Colorado by her very necessities has been driven to declare her paramount right to the exclusive use of the water of her natural streams, in so far as her necessities require the use of such water for beneficial purposes within the state, and her Constitution and statutes negative any assumption of any concurrence between herself, on the one hand, and Wyoming or any other state, on the other hand, whereby the waters of these streams are to be apportioned with other states. The question presented here is one that was expressly left undecided in the case of *Bean vs. Morris*, 221 U. S., 485; to-wit: To what limits may the upper state go when it seeks to do all that it can? In that case, at page 488, the court said:

"It follows from what we have said that it is unnecessary to consider what limits there may be to the powers of an upper state if it should seek to do all that it could."

The Constitution extends judicial power of the Supreme Court to controversies between states and gives the court original jurisdiction in cases in which a state shall be a party.

"Therefore, if one state raises a controversy with another, this court must determine whether there is any principle of law and if so, what, upon which the plaintiff can recover."

Missouri vs. Illinois, 200 U. S., 496-519.

In reference to such controversies the court is in the nature of an international tribunal to which the

several states have agreed to submit certain controversies. The fact that it must decide does not mean that it takes the place of a legislature, or that it is vested with arbitrary or with treaty-making power. It must, we think, be governed by principles explicitly or implicitly recognized, but it does not follow that every matter which would entitle a mere private party to redress would warrant interference by this court with the action of a state.

Missouri vs. Illinois, *supra*, p. 521.

In the case of Georgia vs. Tennessee Copper Co., 206 U. S., 230, some peculiarities are said to mark a suit between a state and a private party, and that, if a state has a case at all, it is somewhat more certainly entitled to specific relief (by injunction) than a private party might be; but this has reference to the nature of relief to be granted, and not to the cause of action itself. The reasoning in that case is only applicable where suit is against an individual, and not against a state as here. In this case we have a state defendant as well as one complainant.

There not being enough water at times for irrigation in both states, the question is the same here as in the Rio Grande case passed upon by Attorney General Harmon; viz.: Which state shall yield to the other?

This case is unlike the case of Missouri vs. Illinois, where the bill sought relief against the pouring of sewage and filth through an artificial drainage canal into the Mississippi River, to the detriment of the State of Missouri and its inhabitants.

Missouri vs. Illinois, 180 U. S., 208.

Missouri vs. Illinois, 200 U. S., 496-517.

So, also, the State of Georgia vs. Tennessee Copper Company, *supra*, is readily distinguishable, for the reason that in the Georgia case the action was to prevent the discharging of sulphurous fumes from the works of the defendant company in Tennessee so as to pollute the air over large tracts of territory in the State of Georgia, thereby causing wholesale damage to forest and vegetable life therein, if not to health in the latter state.

In each of the cases mentioned a *direct invasion* and injury by one of the sovereigns of the territory of the other was contemplated; but here an entirely different question is presented. In this case we have a duplicate of the Rio Grande case hereinbefore quoted from, and we feel that we cannot improve upon the language of the attorney general:

"The injury now complained of is a remote and indirect consequence of acts which operate as a deprivation of prior enjoyments. So it is evident that what is really contended for is a servitude which makes the lower country dominant and subjects the upper country to the burden of arresting its development and denying to its inhabitants the use of a provision which nature has supplied entirely within its own territory.

Such a consequence of the doctrine of international servitude is not within the language used by any writer with whose works I am familiar and could not have been within the range of his thought without finding expression."

Opinion of Attorney General Harmon,
supra, pp. 280-281.

The several states of the Union are sovereign as to all powers except those delegated to the federal government, having all the functions essential to separate and independent existence. Their preservation and the maintenance of their governments are as much within the care of the Constitution as is the national government.

Kansas vs. Colorado, 185 U. S., 125.

Kansas vs. Colorado, 206 U. S., 46.

1st Wharton Digest International Law,
sec. 1.

Rhode Island vs. Mass., 12 Peters, 720.

People vs. Tyler, 7 Mich., 255.

"The states of the Union are a single state in all matters concerning the Federal body as a whole, and yet a group of states, perfectly independent in all matters which concern each member of the group, as a local, self-governing community."

Taylor on International Law, sec. 124.

Texas vs. White, 7 Wallace, 720, 721.

Wheeler vs. Smith, 9 Howard, 78.

"The powers affecting the internal affairs of the state not granted to the United States by the Constitution nor prohibited by it to the states are reserved to the states respectively and all powers of a national character which are not delegated to the National

Government by the Constitution are reserved to the people of the United States."

Kansas vs. Colorado, 206 U. S., 90.

The powers not delegated may be exercised by each state over all persons and properties within its boundaries.

Pennoyer vs. Neff, 95 U. S., 722.

This power may be exercised to the extent of restricting free navigation under certain circumstances.

Escanaba Transportation Co. vs. Chicago, 107 U. S., 678.

In the case of the Hudson Water Company vs. McCarter, 209 U. S., 349, this court sustained a law of the State of New Jersey prohibiting the transportation of water of the state into another state. In that case the problems of irrigation had no place, but, in speaking of the right of a state to keep and control its natural advantages, the court says:

"We are of the opinion further that the constitutional power of the state to insist that its natural advantages shall remain unimpaired by a citizen is not dependent upon any nice estimate of the extent of present use or speculation as to future needs. The legal conception of the necessary is apt to be confined to somewhat rudimentary wants, and there are benefits from a great river that might escape a lawyer's view. But the State is not required to submit even to an æsthetic

analysis. Any analysis may be inadequate. It finds itself in possession of what all will admit to be a great public good and what it has it may keep and give no one a reason for its will."

Hudson Water Co. vs. McCarter, 209
U. S., 349, pp. 356-357.

Of course, a citizen of another state has no greater rights than a citizen of the state within which the resources are situate, and, aside from the question of irrigation, we think the language quoted is applicable to the case at bar. It may be contended, however, that a different rule has been established by this court with reference to irrigation from interstate streams.

Kansas vs. Colorado, 185 U. S., 125.

Ibid., 206 U. S., 46.

Rickey Land & Cattle Co. vs. Miller & Lux,
218 U. S., 258-261.

Bean vs. Morris, 221 U. S., 485.

In a Kansas vs. Colorado, *supra*, it is said:

"It cannot be denied in view of all the testimony * * * that the diminution of the flow of water in the river by the irrigation of Colorado has worked some detriment to the Southwestern part of Kansas, and yet when we compare the amount of this detriment with the great benefit which has obviously resulted to the counties in Colorado, it would seem that equality of right and equity

between the two states forbids any interference with the present withdrawal of water in Colorado for purposes of irrigation."

Kansas vs. Colorado, 206 U. S., 113-114.

In the case of Rickey vs. Miller, *supra*, the court sustained the jurisdiction of a federal court in Nevada which was proceeding to determine a question of priority of appropriation as between two individual appropriators claiming priorities for irrigation in different states from an interstate stream.

In Bean vs. Morris, 221 U. S., 485, the jurisdiction of the lower court was again sustained in a proceeding to determine the priority of appropriation as between individual appropriators in different states. In this case the court, laying aside the question of the rights of the states, indulges in the presumption that the policy of both states is the same.

From the very nature of the *res*, there must be an inevitable conflict between the doctrine of apportionment between states and the doctrine of prior appropriation between the citizens of different states.

If the rule of apportionment between states is the correct one, after the apportionment has been made, the water of each state belongs to that state, the public, subject to state laws of appropriation for beneficial uses. The two doctrines can only be worked out by first making an equitable division between the states, leaving the distribution of the water allotted to each state for determination by the state under its law, without interference by appropriators in the other state.

In other words, under any rule of equitable apportionment between the states, it would seem to be inconsistent to hold that any question in any instance can be decided as between appropriators in different states. For example, if in the controversy between Wyoming and Colorado there is to be an apportionment of the waters equitably between the two states, how can any single appropriator in either state have any right which can be quieted as against any individual appropriator in the other state?

It appears from the bill of complaint in this case that there are a large number of individuals and corporations claiming water rights from the Laramie River in the State of Wyoming, and a number claiming water rights from the same river in the State of Colorado. If this controversy should be first tried out in a suit between the individual claimants, as in *Rickey vs. Miller*, and thereafter one of the states brings a separate action to determine the equitable apportionment of the water between Wyoming and Colorado, would not this necessarily result in over-throwing such rights as might be determined to exist between the individual claimants?

In the *Kansas-Colorado* case the court disposed of the private parties defendant to the bill in this language:

“While several of the defendant corporations have answered, it is unnecessary to consider their defenses for if the case against Colorado fails, it fails also as against them.”

206 U. S., at p. 85.

II.

It does not appear from the bill that the substantial interests of the State of Wyoming are being or will be injured by Colorado, its corporations or citizens, to the extent of destroying the equitable apportionment of benefits between the two states resulting from the flow of the Laramie River.

In case the doctrine of an equitable division between states shall be finally adopted as the better one, all things considered, then we say that complainant by her bill has not stated a cause for equitable relief. The bill alleges, upon page 2, that the stream rises in the mountainous district of northern Colorado, and flows in a general northwesterly course for about 27 miles in Colorado; thence northerly and northeasterly for a distance of about 150 miles in Wyoming. Upon page 4 the watershed or drainage basin of the Laramie River and its tributaries in Colorado is given as 395 square miles, while the watershed and drainage basis of the river and its tributaries in Wyoming is stated as 3,632 square miles. In other words, the drainage area tributary to the stream in Wyoming is more than nine times as great as the drainage area tributary to the stream in the State of Colorado.

Although Wyoming is north of Colorado, the elevation of the Laramie River is less in Wyoming than in Colorado, rendering it impossible for Colorado to ever receive any advantage of any portion of the water that falls within the State of Wyoming. But this is not all. An examination of the exhibits filed with the bill and made a part thereof will affirma-

tively show that the greater part of the small drainage area of the stream in Colorado is below all the ditches constructed or contemplated for taking water out of the stream for use in the State of Colorado. In other words, it affirmatively appears from the bill and exhibits that the threatened diversion of the defendants will tap about 67.9 square miles of the entire watershed of the Laramie within Colorado, which watershed is about 395 square miles, and that the diversion does not take the entire run-off of even 67.9 square miles within the State of Colorado, because that portion of the watershed lying between what is shown on Exhibit "B" as the two collection ditches is not tapped by the diversion works of the defendants. The section of the stream from which Colorado may divert water carries the run-off of only about one-sixth of the watershed within Colorado, and only about one-fifth of the run-off within that state.

We are therefore justified in urging that it affirmatively appears that Colorado has not taken and cannot take an equitable proportion of the water of the stream.

In another part of the bill, pages 2 and 3, it is alleged that the drainage basin of the river in Colorado is mountainous and heavily timbered, where snows fall in winter to a great depth, which, melting in the spring and summer, have, from time immemorial, supplied the water flowing in the channel of the Laramie River and its tributaries, etc. The pleader has not advised the court as to the amount of the precipitation in Colorado, or given any enlightenment whatever in reference to this very material and important subject. These are matters that could be

easily ascertained from the various reports of the proper officers of the federal and state governments, and failure to state these facts should not be looked upon with favor by the court.

Aside from this, as we have stated, the greater part of the drainage area of this river in Colorado is, owing to the topography of the country, not available in the upper state, but is available each season in the lower state, Wyoming.

The complainant alleges, on page 16 of the bill, that the defendants have already begun the construction of a tunnel or tunnels through the walls of said watershed, in order to convey the water for use upon another watershed. It must be assumed that the use the defendants have made and will make of the water so to be conveyed will be a most reasonable and beneficial use, and necessary to the reasonable development of lands within the State of Colorado.

The bill is more noticeable for what it fails to state in regard to certain matters than for the facts pleaded. That the tunnel spoken of had been run through the mountain for a distance of two and one-half miles, and was practically completed at the time the bill was filed, at a cost of more than a half million of dollars; that two millions of dollars had been expended in the construction of an irrigation system for the use of this water; that bonds had been sold, lands prepared for agriculture, and homes built in reliance upon the water so to be diverted from the Laramie River, were matters of general and public knowledge in the States of Colorado and Wyoming, and we submit that the pleader is not justified in the bare statement of the bill that Colorado and its citizens "have

already begun the construction of a tunnel or tunnels through the walls of said watershed."

At the time the bill was filed in the case of *Kansas vs. Colorado* (1902), the question of interstate water rights had received very little attention, and the pleader in that case was perhaps not required to strictly conform to the usual rules of pleading. Owing to the uncertainties then involved in such controversies, exactitude in pleading was not required; but in that case, and since, the matter has been so thoroughly considered and so exhaustively treated by this and other courts that we think greater strictness should be required in the present case.

In the *Kansas-Colorado* case the court said, at pages 117-118:

"Summing up our conclusions, we are of the opinion that the contention of Colorado of two streams cannot be sustained; that the appropriation of the waters of the Arkansas by Colorado, for purposes of irrigation, has diminished the flow of water into the State of Kansas; that the result of that appropriation has been the reclamation of large areas in Colorado, transforming thousands of acres into fertile fields and rendering possible their occupation and cultivation when otherwise they would have continued barren and unoccupied; that while the influence of such diminution has been of perceptible injury to portions of the Arkansas Valley in Kansas, particularly those portions closest to the Colorado line, yet to the great body of the

valley it has worked little, if any, detriment, and *regarding the interests of both States and the right of each to receive benefit through irrigation and in any other manner from the waters of this stream, we are not satisfied that Kansas has made out a case entitling it to a decree.* At the same time it is obvious that if the depletion of the waters of the river by Colorado continues to increase there will come a time when Kansas may justly say that there is no longer an equitable division of benefits and may rightfully call for relief against the action of Colorado, its corporations and citizens in appropriating the waters of the Arkansas for irrigation purposes.

“The decree which, therefore, will be entered will be one dismissing the petition of the intervenor, without prejudice to the rights of the United States to take such action as it shall deem necessary to preserve or improve the navigability of the Arkansas River. The decree will also dismiss the bill of the State of Kansas as against all the defendants, without prejudice to the right of the plaintiff to institute new proceedings whenever it shall appear that through a material increase in the depletion of the waters of the Arkansas by Colorado, its corporations or citizens, the substantial interests of Kansas are being injured to the extent of destroying the equitable apportionment of benefits between the two States resulting

from the flow of the river." (The italics are ours.)

This case has been cited with approval.

Rickey Land & Cattle Co. vs. Miller & Lux, 218 U. S., 261.

Bean vs. Morris, 221 U. S., 485-486.

Mr. Wiel, in the third edition of his very excellent work upon Water Rights in the Western States, reaches the following, among other conclusions, regarding interstate streams:

"The matter is now in a stage of development, and any conclusions must be tentative only. We suggest the following drawn from the foregoing authorities:

(a) Between States, each is entitled to have for its prosperity an equitable apportionment of benefits from an interstate stream. Consequently, control of interstate streams is likely to gravitate toward the formation of joint commissions between the States to supervise their use and make regulations."

1 Wiel Water Rights in the Western States, sec. 345, p. 372.

In discussing the rule between riparian owners in one state and appropriators in another, Mr. Wiel, in section 342, page 364, says:

"In the late case of Rickey etc. Co. v. Miller, in the supreme court of the United

States, the decision upon a question of procedure below referred to was based upon the principle of *Kansas v. Colorado*, that riparian owners in California or appropriators in Nevada, upon the Walker River crossing the boundary, must deduce any right they may have from the law of their respective States; and the enforcement of either right beyond the boundary of its State must depend upon the concurrence of the other State. Unless the upper State (California) will voluntarily impose conditions upon its citizens in favor of users in the lower State (Nevada), the latter have no right in the matter other than to complain that the lower State as such (and not merely the plaintiff) is not receiving an equitable share of the benefit of the stream. This seems to make rights upon interstate streams a matter of interstate relation, reachable by creation of joint commissions between the States interested, to establish rules for such streams."

The same author, in his discussion of the rule that should be applied between appropriators in different states, says, at paragraph 343, pages 364 and 365:

"As in the preceding sections, the supreme court of the United States rules that rights upon interstate streams are a matter of interstate concern (similar to international concerns, regarding the States as each a sovereign). Consequently it is for the States

concerned to see that each receives by joint arrangement, an equitable apportionment of benefit from the stream, opening the way for joint commissions between the States to govern interstate streams."

As to the nature of the proof required to make out a case in a controversy between states, this court has said :

"Before this court ought to intervene, the case should be of a serious magnitude, clearly and fully proved, and the principle to be applied should be one which the court is at perfect liberty to maintain against all considerations on the other side."

Missouri vs. Illinois, 200 U. S., 521.

By a fundamental rule of universal application, the *probata* cannot go beyond the *allegata*, but must conform thereto. As was said by Sanborn, circuit judge, speaking for the Court of Appeals of the Eighth Circuit :

"A court can consider only what is in issue under the pleadings. Averments without proofs and proofs without averments are unavailing. The judgment may not go beyond a determination of the issues presented by the pleadings nor beyond the scope and object of the prayers which they contain. These are axioms of the law of pleading and practice. They rest upon the basic principles of our jurisprudence that no man shall be deprived of his life, liberty or property

without due process of law; due process of law must give to the parties to be affected an opportunity to be heard respecting the justice of the judgment sought. It must be one which gives notice of the issue to be determined, which hears before it condemns, proceeds upon inquiry, and renders judgment only after trial."

Gentry vs. U. S., 101 Fed., 51.

If the holding of this court in *Kansas vs. Colorado, supra*, is that the doctrine of equitable apportionment should govern as between states, it does not appear from the bill that the threatened diversion will deprive Wyoming of her equitable part of the waters of the Laramie River.

III.

The Bill of Complaint Does Not State a Cause of Action Under the Doctrine of Prior Appropriation.

The allegation of the bill in this respect is:

"And your orator further avers that prior to the commencement of the wrongs or threatened wrongs hereinafter set forth, your orator and its citizens within the area of the drainage basin of said Laramie River and its tributaries in the state of Wyoming, had appropriated all the available waters of the said Laramie River and its tributaries above the required flow thereof for riparian

proprietors as herein set forth, for the actual irrigation of the lands of your orator and its citizens within the drainage basin and water shed of the said Laramie River, to-wit, for the irrigation of more than 325,000 acres of land within the said water shed and drainage basin."

Bill of Complaint, p. 14.

This is a mere allegation of a conclusion of law, and the pleading contains no statement of facts upon which the conclusion is based. This is not sufficient.

In the case of Farmers High Line Canal & Reservoir Company et al. vs. Southworth, 13 Colo., 111, the plaintiff alleged that he had a priority, without stating any facts with reference thereto, and that the defendant's right was subsequent in point of time to such priority. A demurrer upon this ground was filed and overruled by the trial court. Upon appeal, the Supreme Court held that the demurrer should have been sustained, and said:

"In pleading an appropriation, it is necessary to plead the facts which constitute the appropriation."

The case of Church vs. Stillwell et al., 12 Colo. App., 43, was an action in reference to water rights for reservoir purposes, and the court said, at page 48:

"In a suit to determine the priorities of such right, it is not sufficient for the plaintiff to merely allege in his complaint that he has the priority of right. That is a legal conclusion. He must specifically aver all of

the subsequent facts which are necessary to constitute such priority."

Carroll vs. Vance, 39 Colo., 216; 88 Pac., 1069.

Wutchumna Water Co. vs. Pogue, 151 Cal., 105; 90 Pac., 362.

The rule which requires the facts to be pleaded is not technical, but substantial; not a useless requirement, but necessary to advise the opposite parties and the court of the true nature and objects of the suit. If the pleader had stated the facts upon which the allegation in this case is made—this conclusion of law asserted—such facts would perhaps reveal that the valid appropriations on the Laramie River can be satisfied with the run-off of the drainage basin of that river, and yet leave a sufficiency of water to supply the alleged diversion of the defendants. The defendants ought not to be haled into court to meet litigation as grave in its character as that initiated by this proceeding, unless a clear case is stated in the bill of complaint. How were the appropriations which the complainant seeks to protect initiated? When and in what manner have they been perfected, if at all? are questions upon which the bill is entirely silent. Although the opinion upon demurrer in the Kansas-Colorado case intimates that less exactness will be required where a state is complainant than as between mere private litigants, this was, we think, said with reference more particularly to an equitable division of water between the states, and hence does not apply to the phase of the controversy now under consideration; to-wit, that the bill

does not state a cause of action as between contesting appropriators under the doctrine of prior appropriations.

PLACE OF USE NOT MATERIAL.

It is stated in the complaint, and objection is founded upon it, that this water is being carried to another watershed. If the court upholds the contention of the defendants that the State of Colorado has the absolute right to use for beneficial purposes within the state all the waters falling within its borders, the particular place of use within the state is eliminated from consideration; so, likewise, if the doctrine of equitable apportionment shall be the basis of decision, we assume that the place of use of the water awarded to Colorado will be left entirely to the state. If, however, the doctrine of prior appropriation is to be the rule of decision in this case, we shall still claim that the place of use within the state is unimportant. In *Kansas vs. Colorado*, 206 U. S., 46, the court, at page 94, in speaking of the state, said:

"It may determine for itself whether the common law rule in respect to riparian rights or that doctrine which obtains in the arid regions of the west of the appropriations of water for the purposes of irrigation shall control. Congress cannot enforce either rule upon any state."

See also:

U. S. vs. Rio Grande Irr. Co., 174 U. S., 690.

We have already shown that the doctrine of prior appropriation has always been the law of the arid regions of the United States, and that all legislation has been based upon the voluntary recognition of pre-existing rights. (U. S. vs. Rio Grande Irr. Co., *supra*.) This doctrine of diversion and appropriation obtaining in the arid regions has arisen from the necessity of the situation, and the same reason that justifies the doctrine justifies taking the water to another watershed. It is the law, and has always been the custom throughout the arid regions, to make application regardless of the watershed. In fact, in order to secure the benefit of the right of appropriation, it is in many cases absolutely necessary to make application of the water upon another watershed. Both Colorado and Wyoming recognize and enforce the doctrine of appropriation, and also the right to apply to another watershed. The following cases in Colorado recognize the right to divert water from one watershed to another:

Coffin vs. Left Hand Ditch Co., 6 Colo., 443, 449.

Thomas vs. Guirand, 6 Colo., 530, 532.

Hammond vs. Rose, 11 Colo., 524, 526.

Oppenlander vs. Left Hand Ditch Co., 18 Colo., 142-144.

Coffin vs. Left Hand Ditch Company, *supra*, has been cited and followed in Wyoming.

Moyer vs. Preston, 6 Wyo., 308, 318, 321.

Willey vs. Decker, 11 Wyo., 496, 516, 528, 530.

Coffin vs. Left Hand Ditch Company, *supra*, is cited with approval in the following federal cases:

Boquillas Cattle Co. vs. Curtis, 213 U. S., 339, 347.

Cascade Town Co. vs. Empire Water & Power Co., 181 Fed., 1014 and 1015 (C. C. Colo.).

Snyder vs Colorado Gold Dredging Co., 181 Fed., 65 (C. C. A.).

The following excerpt from the opinion of the court in Coffin vs. Left Hand Ditch Company, *supra*, is applicable:

"The doctrine of priority of right by priority of appropriation for agriculture is evoked, as we have seen, by the imperative necessity for artificial irrigation of the soil. And it would be an ungenerous and inequitable rule that would deprive one of its benefit simply because he has, by large expenditure of time and money, carried the water from one stream over an intervening watershed and cultivated land in the valley of another. It might be utterly impossible, owing to the topography of the country, to get water upon his farm from the adjacent stream; or if possible, it might be impracticable on account of the distance from the point where the diversion must take place and the attendant expense; or the quantity of water in such stream might be entirely insufficient to supply his wants. It sometimes happens that the most fertile soil is found

along the margin or in the neighborhood of the small rivulet, and sandy and barren land beside the larger stream. To apply the rule contended for would prevent the useful and profitable cultivation of the productive soil, and sanction the waste of water upon the more sterile lands. It would have enabled a party to locate upon a stream in 1875, and destroy the value of thousands of acres, and the improvements thereon, in adjoining valleys, possessed and cultivated for the preceding decade. Under the principle contended for, a party owning land ten miles from the stream, but in the valley thereof, might deprive a prior appropriator of the water diverted therefrom whose lands are within a thousand yards, but just beyond an intervening divide." (Pp. 449-450.)

In *Wiley vs. Decker*, *supra*, the Supreme Court of Wyoming, at page 531, quotes with approval the following from the Colorado case of *Oppenlander vs. Left Hand Ditch Co.*, *supra*:

"The appropriator, though he may not own the land on either bank of a running stream, may divert the water therefrom and carry the same whithersoever necessity may require for beneficial use, without returning it or any of it to the natural stream in any manner."

See also:

Wiel on Water Rights in the Western States, p. 365.

Black's Pomeroy on Water Rights, sec. 47.
 Offield vs. Ish, 21 Wash., 277; 57 Pac., 809.
 Long on Irrigation, p. 50.

This doctrine of diversion of water from one watershed to another is determined by the local necessities, and obtains throughout the world for domestic and irrigation purposes, without returning the water to the natural stream in any manner. Whether the water shall be taken across a divide and used upon the lands drained into another stream is simply an incident of locality. This rule is not characteristic of any set of laws or of any particular civilization, but is the outgrowth of human conditions.

The court will take judicial notice that the doctrine that water may be diverted to non-riparian land is recognized and followed by the Reclamation Service of the United States government in irrigation enterprises throughout the arid regions; also by the State of Wyoming, the State of Colorado, and by other arid states and countries. All this without limit as to the place of application. Some examples of this have already been referred to.

"It has been very justly observed at the bar, that the court is bound to take notice of public facts and geographical positions."

U. S. vs. Rio Grande Irr. Co., 174
 U. S., 690.

"The law of any State of the Union, whether depending upon statutes or upon opinions, is a matter of which the courts of

the United States are bound to take judicial notice without plea or proof."

Lamar vs. Micou, 114 U. S., 218-223.

The proposed Bear River diversion works in Utah is an example. This project is mentioned in several reports of the Reclamation Service, from the second to the seventh.

A large number of other federal reclamation projects, diverting water from one watershed for the irrigation of lands upon a different watershed, are described in Public Document No. 1262 of the Sixty-first Congress, Third Session, the same being a message from the President of the United States transmitting a report of the Board of Army Engineers in relation to the Reclamation Fund for the reclamation of arid lands.

In Wyoming, in practice, water is taken from one watershed to another in numerous instances. The greatest number of these cases are in the valley of the Powder and Tongue Rivers near Buffalo and Sheridan, Wyoming. The most notable case, and one which is almost exactly parallel to the diversion from the Laramie River into the Poudre Valley, of which complaint is made in this case, is that of a group of ditches taking water from the Piney, a tributary of Powder River, to Prairie Dog Creek, a tributary of Tongue River. In other words, this water is taken from the Powder River watershed to the Tongue River.

It therefore appears that, by common consent, waters may be taken from one stream for use upon a different watershed, whenever the topography of the country requires this to be done in order to secure the

best results, and that this practice is supported by both reason and authority.

To recapitulate, we conclude that the states should each have the right to control the waters of their non-navigable streams within their borders; but if the court shall conclude that the doctrine of equitable apportionment between states is the proper one, the demurrer should be sustained for the reason that the bill does not state a cause of action for equitable relief. The doctrine of priority of appropriation, which has sometimes been applied between individual appropriators in different states, can have no application in this case; and, even if it had, the bill does not contain facts sufficient to make a case.

For the reasons given, we respectfully submit that the demurrer should be sustained and the bill dismissed.

BENJAMIN GRIFFITH,
Attorney General of the State
of Colorado;

CHARLES F. TEW,
DELPH E. CARPENTER,
Solicitors for the Greeley-
Poudre Irrigation District.

JULIUS C. GUNTER,
CHARLES D. HAYT,
CLYDE C. DAWSON,
FRED R. WRIGHT,
Solicitors for the Laramie-
Poudre Reservoirs and Ir-
rigation Company, Defend-
ant.

In the Supreme Court of the United States.

No. 8 Original.

IN EQUITY

THE STATE OF WYOMING, COMPLAINANT,

VS.

THE STATE OF COLORADO, THE GREELEY-
POUDRE IRRIGATION DISTRICT, A MUNI-
CIPAL CORPORATION, THE LARAMIE-POUDRE
RESERVOIRS AND IRRIGATION COMPANY,
A CORPORATION, DEFENDANTS.

ANSWER OF THE STATE OF COLORADO.

This defendant, the State of Colorado, now and at all times hereinafter saving to itself all and all manner of benefit or advantage of exception or otherwise that can or may be had or taken to the many errors, uncertainties and imperfections in the said bill of complaint contained, for its answer thereto, or to so much thereof as it is advised it is material and necessary for them to answer to, saith:

I.

Admits that the greater extent of the drainage basin of the Laramie River in Colorado is in a mountainous and heavily timbered country, where snows fall in winter, but denies that the run-off from said drainage basin supplies all of the waters flowing in the channel of the Laramie River and its tributaries. Defendant avers that less than one-half of the run-off of the Laramie River is supplied by the drainage basin of the Laramie River and its tributaries within the State of Colorado. Defendant avers that among the tributaries of the Laramie River rising in the mountainous regions of Colorado and discharging their waters into the Laramie River, in addition to those enumerated in the bill of complaint, are Johnson Creek and Beaver Creek. Defendant denies that Complainant's Exhibit A shows either the drainage basin of the Laramie River and its tributaries, or the irrigated lands thereunder, within the State of Wyoming, and avers that the map attached to the joint and several answer of the Greeley-Poudre Irrigation District and The Laramie-Poudre Reservoirs and Irrigation Company, marked Exhibit I and made a part of this answer, shows the drainage basin of the Laramie River and its tributaries, and the irrigation ditches and works taking water therefrom, within the State of Wyoming, but avers that only about 25,000 acres of the lands designated on Exhibit I as irrigated lands were under irrigation at the time of the inception of the defendant's, The Laramie-Poudre Reservoirs and Irrigation Company's rights to divert water through the tunnel mentioned

.

in the bill of complaint, and which diversion is sought to be enjoined herein. Defendant denies that the map marked Exhibit B, attached to the bill of complaint, is a correct map of the drainage basin of the said river and its tributaries within the State of Colorado, and avers that Exhibit I, heretofore mentioned, and made a part of this answer, is a true map of the last-mentioned drainage basin. Defendant admits that the larger part of the watershed of said river and its tributaries in Colorado is mountainous, rocky, and timbered, and avers that a large portion of the 3,865 square miles of the drainage area of said river and its tributaries in Wyoming is also mountainous, rocky, and timbered, upon which the precipitation of moisture is great, and from which the run-off is about 500,000 acre-feet annually. Defendant avers that a considerable part of the run-off from the drainage area of said river and its tributaries within Colorado enters the Laramie River after it enters the State of Wyoming. Defendant avers that about 4,000 acres of the drainage basin of said Laramie River and its tributaries within Colorado are of irrigable character. Defendant denies that the greater portion of the drainage area of said river and its tributaries in Wyoming is irrigable and productive, and avers that not to exceed 100,000 acres of the drainage area of the said river and its tributaries within the State of Wyoming are productive under irrigation; that of this area about 50,000 acres lie in said drainage area between the Colorado line and the Wheatland Reservoir, as shown on Defendant's Exhibit I, which last-mentioned area is located at a high altitude—to-wit, about 7,500 feet—where the irriga-

tion season is short—to-wit, about six weeks—commencing about the fifteenth of June, and the lands of which are of inferior quality, unproductive, adapted to raising only limited crops. Defendant further avers that the remaining portion of the lands in the drainage basin of said river and its tributaries, lying in the vicinity of Wheatland, aggregate about 50,000 acres. This land has some productivity, but the greater part of the irrigation rights therefor were initiated long after the inception of the rights through which these defendants make claim to divert a part of the waters of said river and its tributaries, through the tunnel mentioned in the bill of complaint. Defendant admits that prior to the act of Congress of July 25, 1868, creating the Territory of Wyoming, that portion of the watershed and drainage basin of the Laramie River and its tributaries which is now within the State of Wyoming was within the boundaries and subject to the laws of the Territory of Dakota; but denies that at any time the riparian proprietors on said stream had the right to have the waters of said stream or its tributaries flow across or along their lands unpolluted and undiminished. Defendant avers at no time did the doctrine of riparian ownership of waters obtain in that part of Dakota Territory, since said act of Congress a part of the State of Wyoming. Defendant avers that at no time has it been the law that diversions of water from said stream or its tributaries in Wyoming, or diversions therefrom made in Colorado for application in Wyoming, could be made to the prejudice of the rights of the State of Colorado in the exercise of her inherent sovereign power to divert from

the section of the Laramie River within Colorado the entire run-off of said section for use within the State of Colorado. Defendant avers that change in the point of diversion, the place of use, and the kind of use, where the same is made from the section of the stream within Colorado, may at any time be made within the State of Colorado, provided the same can be done without prejudice to any existing appropriations within the State of Colorado. Defendant further avers that the waters of said stream and its tributaries within the State of Colorado constitute a part of the natural resources of, and were and are owned by, the State of Colorado, subject to the right of appropriations thereof under her laws. Defendant avers that the right of appropriation and use of the waters of said stream and its tributaries within Colorado is to no extent affected by, or subject to, the laws of any other sovereignty than that of the State of Colorado. As to whether or not the United States of America in 1862, or at any other time, granted to the Union Pacific Railway Company 350,000 acres of land, or any part thereof, within the State of Wyoming, riparian to the Laramie River and its tributaries, this defendant has not and cannot obtain sufficient knowledge or information upon which to base a belief. As to whether or not the last-mentioned lands, or any part thereof, have passed from said railroad company, or are at this time owned or possessed by 1,500 or any other number of people, this defendant has not and cannot obtain sufficient knowledge or information upon which to base a belief. This defendant denies that the right to the continuous flow of the waters of said river, or any part thereof, or any of

the waters of its tributaries, is vested in the citizens of complainant; denies that the doctrine of continuous flow or of riparian rights at any time obtained in the drainage basin of the Laramie River and its tributaries within the State of Wyoming; admits that, prior to the commencement of construction of the system of irrigation having for its purpose the diversion by the defendants of a part of the waters of the Laramie River and its tributaries, some of the lands lying along said river and its tributaries had been settled and improved, and that some part thereof had been rendered more productive by irrigation from said stream and its tributaries, but avers that the run-off of said river and its tributaries was ample to supply the demands and rights so created, and leave an abundance of water to supply the diversions sought to be enjoined herein. Defendant denies that the lands of said area without the use of water, the diversion of which is sought to be enjoined herein, would be rendered valueless, and also denies that 20,000 people, or any number in excess of 2,000, residing upon said lands, are supported, directly or indirectly, by reason of the irrigation and cultivation of said lands; denies that \$20,000,000, or any sum in excess of \$500,000, had been expended within the State of Wyoming in the development or use of the waters of said stream or its tributaries, prior to the initiation of the rights of the defendant, the Laramie-Poudre Reservoirs and Irrigation Company. As to whether or not 400,000 acres of land lying in the drainage basin of said river and its tributaries within the State of Wyoming had been patented by the United States of America prior to the commencement

of construction of its said system of irrigation by defendant, the Laramie-Poudre Reservoirs and Irrigation Company, this defendant has not and cannot obtain sufficient knowledge or information upon which to base a belief. As to what number of acres of the last-mentioned land are now owned, possessed, or occupied by citizens of complainant, defendant has not and cannot obtain sufficient knowledge or information upon which to base a belief. Defendant admits that certain of the waters of said river and its tributaries are used by citizens of towns and villages in Wyoming, but avers that there is more than sufficient run-off in said stream and its tributaries to satisfy such needs and to supply the rights of the defendants sought to be enjoined in this suit; admits the existence of certain appropriations from said river and its tributaries prior to the commencement of construction of the defendant's system of irrigation, mentioned in the bill of complaint, but avers that the run-off of said stream and its tributaries was and is more than sufficient to satisfy the same and the diversions sought to be enjoined in this action. As to whether or not complainant is the proprietor of 50,000 acres of land within said watershed, this defendant has not and cannot obtain sufficient knowledge or information upon which to base a belief. Defendant admits that prior to the commencement of construction of the irrigation system for the purpose of the diversions, sought to be enjoined herein, certain citizens of the State of Colorado had appropriated, for the purpose of irrigating certain lands within said drainage basin, certain waters of said river and its tributaries, and avers that such appropriations

amounted to about 8,000 acre-feet of water per annum. As to what part of said waters, applied within the drainage basin of Colorado, has heretofore returned to the stream and its tributaries, this defendant has not and cannot obtain sufficient knowledge or information upon which to base a belief. Defendant avers that other appropriations of said waters of said Laramie River and its tributaries had been made by the State of Colorado and its citizens within the State of Colorado, prior to the appropriations of said waters by complainant and its citizens, as set forth in the complaint, and avers that on the 25th day of August, 1902, the defendant The Laramie-Poudre Reservoirs and Irrigation Company, and its predecessors in title, by commencement of construction, initiated its rights to the diversion, for the purpose of irrigation and domestic use, through the tunnel mentioned in the bill of complaint, to 1235 *second-feet* of water, and that at the time of the initiation of such rights of the defendant The Laramie-Poudre Reservoirs and Irrigation Company and its predecessors in title, there was abundant water in the said stream to satisfy all prior appropriations then in existence in the State of Colorado and in the State of Wyoming. Defendant denies that, prior to the threatened diversion sought to be enjoined in the complaint, the plaintiff and its citizens had appropriated all of the available waters of the said Laramie River and its tributaries, but avers that at such time there was ample run-off in said stream, and that there is now ample water therein, to supply the threatened diversions of these defendants and all prior rights in the State of Wyoming. Defendant avers that at no time prior to

the institution of this suit had more than 50,000 acre-feet annually been taken from said stream and its tributaries for use in the State of Wyoming. Defendant avers at the time of the initiation of the rights, the exercise of which is sought to be enjoined in this suit, rights for the appropriation of water for irrigation and domestic use in the State of Wyoming had been created or initiated for not exceeding 50,000 acre-feet, and avers that at such time there was available to supply such last-mentioned rights or initiated rights more than 800,000 acre-feet annually in the run-off of said stream. As to whether or not the plaintiff had, and its citizens had, at any time employed the waters of said stream and its said tributaries, for the subirrigation of 25,000 acres of land riparian to said stream and its said tributaries, said land being owned and possessed by said complainant and its citizens, and for live-stock and domestic uses, this defendant has not and cannot obtain sufficient knowledge or information upon which to base a belief. Defendant denies that the waters sought to be diverted through the tunnel mentioned in the bill of complaint would render the lands lying within the basin of said stream and its tributaries, within the State of Wyoming, to a large extent valueless and unable to support any considerable population; denies that the use of the waters so sought to be enjoined would add the value of \$10,000,000 to the lands within said watershed within the State of Wyoming, or would enable said land to support a population of 20,000 people, or any other considerable number of people; denies that the diversion sought to be enjoined herein would render the lands in the water-

shed of said stream and its tributaries within Wyoming valueless. Defendant denies that it and its co-defendants are threatening to divert, by the tunnel mentioned in the bill of complaint, or otherwise, more than 100,000 acre-feet per annum of the waters of said stream and its tributaries, and avers that the maximum diversion which can be made through said tunnel, or the irrigation system in aid thereof, does not and cannot exceed 70,000 acre-feet annually from the run-off of said stream, which run-off amounts to about 800,000 acre-feet annually. Defendant denies that there has been diverted in any manner within the State of Colorado, for application to a beneficial use within the drainage basin of said river and its tributaries, a larger amount of water than was necessary to the appropriations made prior to the acquired rights of complainant and its citizens. Defendant avers that at no time has a greater amount of water been diverted from said stream for application to a beneficial use within the State of Colorado than the appropriations within the State of Colorado called for, and that at such time there was ample water in said stream to satisfy such appropriations and all prior appropriations within the State of Wyoming. Defendant avers that the State of Colorado is the owner of all waters within said State of Colorado, with the full right to dispose of them as it may choose, and denies that such rights are subject to the rights acquired by the complainant and its citizens, as alleged in the bill of complaint; avers that it is the right of the defendant commonwealth to dispose of the waters of that portion of said stream lying within the State of Colorado, without let or hindrance by the com-

plainant or its citizens; and defendant avers that the defendant commonwealth can so dispose of the waters of said stream regardless of the prejudice that it may work to the complainant or its citizens within the State of Wyoming, and need give no reason for its will.

II.

Further answering said bill of complaint, this defendant, the State of Colorado, alleges that on the first day of August, 1876, it was admitted into the Union, and then became, and ever since said date has been, and now is, a sovereign state; that within the boundaries of its own territory it possesses the full rights and prerogatives of sovereignty, save as to that portion of power delegated to the federal government by the Constitution of the United States; and that this defendant, the said State of Colorado, is foreign to the State of Wyoming for all but federal purposes; that, being so sovereign within its own territory, it has the plenary and exclusive right and power to control and regulate the use of non-navigable waters within its boundaries, including non-navigable rivers and other streams, and that it has never surrendered this sovereign power over water rights and streams, nor delegated this power, or any portion thereof, to any other sovereign, either national or state.

Defendant further alleges that the territory of the State of Colorado is the apex of the Continental Divide, dividing the waters flowing into the Atlantic and the Pacific, and that streams originating in the mountain heights within the State of Colorado flow

in every direction out of the state; that the origin of these streams is generally near the center of the state, and at no place within the state do any of these streams attain any considerable size in comparison with rivers in the less arid sections of the country; that, owing to the topographical nature of the territory within the State of Colorado, these streams, as a rule, and particularly upon the eastern slope of the Rocky Mountains, after leaving the mountains in which they originate, flow across lands of a nature usually described as plains, and from which, owing to the lack of rainfall, these streams receive no additional supply of water, but, on the contrary, the water in said streams is very rapidly diminished by evaporation and by absorption by the soil through which they pass; that these lands have a soil of unusual fertility, and when irrigated produce crops unexcelled and almost unequalled in quantity and quality.

This defendant alleges that the Laramie River, named in the complainant's bill of complaint, is a stream having its sources within the boundaries of the State of Colorado and flowing within said state for a distance of twenty-seven miles, until it crosses the northern boundary thereof and enters the State of Wyoming; that said river is not navigable within either the State of Colorado or the State of Wyoming, and that the same is not an avenue or instrumentality of interstate commerce as between the States of Colorado and Wyoming. The use of the waters of said stream by diversion thereof, and application of the same upon lands within the territorial limits of the State of Colorado, is essential to the life and well-being of the inhabitants of a large

area within Colorado, and the right of continued use of the said waters is as vital to the inhabitants of the lands upon which said waters are to be applied as is the land itself. This defendant alleges that the jurisdiction and rights of the State of Wyoming, either in its sovereign capacity or as a proprietor of lands, and the rights of the citizens of Wyoming, do not extend into the State of Colorado, and this defendant further alleges that, under the laws and principles of international and interstate law, the sovereign rights of this defendant over the waters of the section of the Laramie River and its tributaries lying within the State of Colorado are not subservient to the sovereignty or rights of the State of Wyoming, and that the State of Wyoming has no dominant estate, rights, or jurisdiction as against this defendant, or its people, in that part of the Laramie River and its tributaries flowing in the State of Colorado, and that the State of Colorado cannot be subjected to the burden of arresting its development, or of denying to its inhabitants the use of an element which nature has supplied entirely within its own territory, and without which, and the free use thereof, the lands to which said water is sought to be applied would be uninhabitable.

III.

This defendant, further answering the bill of complaint, says that the Laramie River and certain of its tributaries rise within the State of Colorado; that the drainage area thereof within the State of Colorado is about 428 square miles, and that the

length of the said stream in Colorado is about twenty-seven miles; that the drainage area of said stream and its tributaries within the State of ~~Colorado~~ ^{Wyoming} is 3,865 square miles, and that the total drainage area of said stream within the States of Colorado and Wyoming is 4,293 square miles, and that the length of said stream within Wyoming is about 150 miles; that the annual run-off of the sections of said stream lying within the State of Colorado is about 300,000 acre-feet, and that the annual run-off of the sections of said stream lying within the State of Wyoming is about 500,000 acre-feet; that the diversion system, the operation of which is sought to be enjoined herein, taps only the upper sections of said stream and its tributaries lying within the State of Colorado, and only about seventy-five square miles of the said drainage area of 428 square miles lying within Colorado. Further, that said diversion system sought to be enjoined herein cannot divert annually more than 70,000 acre-feet of the annual run-off of 800,000 acre-feet of said stream and its tributaries. Further, that by reason of natural conditions, there cannot be diverted from said stream for said use within the State of Colorado more than 90,000 acre-feet annually. Defendant further alleges that said stream and its tributaries rise in the mountains of Colorado, at an altitude of from about 8,000 to 14,000 feet; that its waters flow through a deep valley and mountain canyons within Colorado, and thence along the same into the section of the stream lying within the State of Wyoming; that the bed of said stream within Colorado is so low that water can only be diverted from the upper sections of said stream and its tributaries

for use in Colorado; and defendant alleges that, under and by the system the operation of which is sought to be enjoined herein, and all other practicable means, no more than 90,000 acre-feet annually can be diverted from said stream and its tributaries for use upon lands lying within the State of Colorado.

Defendant avers that long prior to the institution of the present suit, and at a time when all of the diversion from said stream and its tributaries for use within the State of Wyoming did not exceed 50,000 acre-feet, citizens of this defendant and predecessors in title to the co-defendants of this defendant, acting under the authority and by the permission of this defendant, the State of Colorado, diverted from said stream about 8,000 acre-feet annually, and applied the same to irrigation and domestic uses within the watershed of said stream. Defendant further avers that on, to-wit, August 25, 1902, the predecessors in interest of the co-defendants of this defendant conceived an extensive system of irrigation for the conveyance of about 70,000 acre-feet of the run-off of the upper reaches of the said stream to a body of 125,000 acres of rich land, lying in the valley of the Cache la Poudre River in the County of Weld, State of Colorado, and necessary for the reclamation of said body of land; that, in pursuance thereof, and in accordance with the laws of this defendant and by its permission, irrigation rights for said system were initiated by the predecessors in interest of the co-defendants of this defendant, on August 25, 1902, by the commencement of actual construction on said system; and since the last-mentioned date, in further pursuance of said undertaking, a collection system

for gathering the upper water of said river and its tributaries, a reservoir for impounding the same, and a tunnel of about 12,000 feet in length for the carriage of the same through the mountain range constituting the eastern boundary of the watershed of said river and its tributaries, have all been constructed and are now practically completed, at a cost of about \$1,200,000. Defendant further avers that, in addition to said expenditure and construction, water rights and other interests, including reservoir sites, have been purchased, and construction work done thereon, at a further cost of about \$1,500,000. Defendant avers that said system is practical and will with due diligence be completed. Defendant avers that, in aid of said irrigation system, an irrigation district, the defendant The Greeley-Poudre Irrigation District, a municipal corporation, was formed under the laws of the State of Colorado, embracing about 125,000 acres of land; that bonds for said purpose were voted and issued to the amount of \$5,100,000 par value, and made a first lien on the lands of said district, and that a total of about \$2,700,000 of said bonds, par value, have been expended in the purchase of water rights and in the construction of said irrigation system. Defendant further avers that about \$2,300,000 of said bonds are in the treasury of said district, and are available for the completion of said system.

Defendant avers that, relying upon the diversion of said 70,000 acre-feet annually from said Laramie River and its tributaries, citizens of this defendant have filed upon large bodies of public lands in said district under the homestead and desert land laws of

the United States, and have placed valuable improvements thereon, and are preparing at great expense to make homes thereon; that large bodies of other land in said district have been purchased relying on said diversion from the Laramie River, and valuable improvements have been made on the same; that if the said diversion from the Laramie River is permitted, it will enhance the value of said land about \$50,000,000; if denied, it will largely destroy the value of said lands, and will defeat the acquisition of title to all of said lands filed upon under the desert land laws of the United States. Defendant further avers that at the time of the initiation of the irrigation rights, the exercise of which is sought to be enjoined in this proceeding, there was, and after this proposed diversion is made will be, abundant water left in the Laramie River and its tributaries to supply all the irrigation rights in the State of Wyoming which had their origin prior to the inception of the rights, the exercise of which is sought to be enjoined herein. The defendant further avers that the lands within the State of Wyoming, to the irrigation of which the water of the Laramie River and its tributaries has been applied and can be applied, are greatly inferior in productiveness to the lands within the State of Colorado to which the waters herein involved will be applied; and, further, that the lands within the State of Wyoming, in addition to being non-productive, require a greatly increased quantity of water over the necessities of the lands in the State of Colorado for their irrigation; and, further, that the application of water thereto—that is, to the lands

within the State of Wyoming—will produce less returns.

This defendant, having now fully answered all the allegations in plaintiff's bill of complaint, or so much thereof as the defendant is advised ought to be answered, asks to be hence dismissed with costs and charges in this behalf sustained.

Benj. Griffith

 Attorney-General of Colorado and
 Solicitor for Defendant.

Fred Farrar

 of Counsel.

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St. Paul, Minn.

Minnesota State Library
St. Paul, Minn.

IN THE

No. ———. Original.

THE STATE OF WYOMING,
Complainant,

U.S.

THE STATE OF COLORADO, THE GREELEY-POUDRE IRRIGATION DISTRICT, a municipal corporation, THE LARAMIE POUDRE RESERVOIRS AND IRRIGATION COMPANY, a corporation,
Defendants.

In Equity.

APPLICATION FOR LEAVE TO FILE ORIGINAL
BILL OF COMPLAINT.

Comes now the complainant in said cause by Douglas A. Preston, Attorney-General for the State of Wyoming and solicitor and of counsel for the complainant, and makes this the application of the said complainant for leave to file in this Court the Bill of Complaint in said cause, and said complainant herewith presents the Bill of Complaint which it proposes to file.

DOUGLAS A. PRESTON,

*Attorney-General for the State of Wyoming
and Solicitor and Of Counsel for Complainant.*



In the Supreme Court of the United States

October Term 1917

In Equity

THE STATE OF WYOMING,
COMPLAINANT,
VS.

THE STATE OF COLORADO, The Greeley-Poudre
Irrigation District, and The Laramie-Poudre
Reservoirs and Irrigation Company,
DEFENDANTS.

SUPPLEMENTAL BRIEF ON BEHALF OF DEFENDANTS

Volume 1

The Law

PLATT ROGERS,
FRED FARRAR,
Of Counsel.

LESLIE E. HUBBARD,
*Attorney General of the State
of Colorado;*

DELPH E. CARPENTER,
*Attorney for The Greeley-Poudre
Irrigation District;*

JULIUS C. GUNTER,
*Attorney for The Laramie-Poudre
Reservoirs & Irrigation Co.*



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In the
**Supreme Court of the
United States**

OCTOBER TERM, 1917.

NUMBER 5 - ORIGINAL

IN EQUITY

THE STATE OF WYOMING,
COMPLAINANT,

vs.

THE STATE OF COLORADO, The Greeley-Poudre
Irrigation District, and The Laramie-Poudre
Reservoirs and Irrigation Company,
DEFENDANTS.

**SUPPLEMENTAL BRIEF ON BEHALF
OF DEFENDANTS**

PRELIMINARY STATEMENT.

This is an original proceeding between two states of the Union, each asserting sovereign rights.

The defendant Irrigation District is a public corporation organized under the laws of Colorado for the reclamation of a portion of the arid lands of the state by means of a large irrigation system theretofore owned by the defendant Irrigation Company,

a Colorado corporation, engaged in the completion of the system for the defendant Irrigation District.

This suit involves the diversion and use by Colorado and its citizens, for the necessary reclamation of arid lands, of a portion of the waters of that branch of the Laramie River which rises and flows within the State of Colorado.

The Laramie River is an interstate stream, rising and flowing in both Wyoming and Colorado. The diversion complained of is from the southerly or Colorado branch of the stream. The topographical conditions are such that the tunnel project here complained of defines the limit of maximum diversion from the Colorado branch of the river for use in that State. Colorado can never take more than 91/250 of the waters of the branch of the stream rising within the territorial limits of the State, by means of the tunnel project and all other existing diversions, and a greater portion of the waters rising in Colorado must for all time flow into the State of Wyoming, there to increase the supply from the Wyoming branches of the stream, for the use and benefit of Wyoming and its citizens.

The Laramie River in turn is one of many branches or tributaries of the North Platte River, the northerly branch of the Platte River, which unites with the southerly branch, the South Platte River, at North Platte, Nebraska.

(See Map, Exhibit 1, attached to the answer of the corporation defendants.)

The greater portion of the waters of both branches of the Platte River rise within the State of Colorado, and the diversion complained of is from the head-waters of one branch of the stream for use in the reclamation of land situate within the drain-

age of another branch of the same stream. The waters have their origin, and diversion and application occur within the State of Colorado.

Wyoming asserts the right, both as the owner of lands within the drainage area of the Laramie River and also because of alleged prior appropriations of water from the stream within that State by its citizens, to the undiminished flow of the waters which rise and flow in Colorado, as well as those waters which have their source within Wyoming. She denies to Colorado the right to divert and use a portion of the waters rising in that State by means of a system of ditches leading to a tunnel through the mountain range which forms the easterly border of the drainage area of the Colorado branch of the stream, for use upon lands lying within a neighboring drainage. Wyoming also asserts that, as a State, she has the right to an undiminished flow of the waters of the Colorado branch of the Laramie River for the use and benefit of the citizens of Wyoming, and prays that Colorado and appropriators within that State be enjoined from making the diversions of which complaint is made.

Colorado, by answer, denies that this diversion of a portion of the waters of the stream within its borders will injure Wyoming or its citizens, or that the waters of the Colorado stream were appropriated by citizens of Wyoming prior to the initiation of the Colorado enterprise complained of, and alleges that after the Colorado diversions shall have been made there will yet remain ample water in the stream to satisfy all prior appropriations by citizens in Wyoming. Colorado avers that the waters of the Laramie River constitute a natural resource of the State; that it is the owner of all waters within its borders, and that it has full right to utilize the same for its

own necessities and those of its people, and that it may dispose of them as it may choose; denies that the right to divert and use the waters of its stream is to any extent affected by, or subject to, the laws of Wyoming or any other sovereignty or is subject to the rights acquired by complainant and its citizens as in the bill of complaint alleged; and avers that Colorado has the right to use and dispose of the waters of that portion of the stream rising and flowing within its borders, without let or hindrance and regardless of any prejudice it may work to complainant or its citizens, and that it need give no reason for its will.

Colorado further alleges its admission as a State of the Union August 1, 1876; that within the boundaries of its own territory it possesses the full rights and prerogatives of sovereignty, save as delegated by the Constitution to the United States; that Colorado is foreign to Wyoming for all but federal purposes; that being so foreign, within its own territory, it has the plenary and exclusive right and power to control and regulate the use of non-navigable waters; and that it has never surrendered the sovereign power over water rights or streams, or any portion thereof to any other sovereignty, either national or state; that the territory of Colorado is the apex of the continental divide; that its streams originate in its mountain heights, and from thence flow in all directions into lower states; that these streams have an ever-diminishing flow out across arid plains of unusual fertility and productivity when supplied with water for irrigation, but that the waters of these streams are inadequate to supply the needs of its lands; that the portion of the Laramie River in Colorado is non-navigable, has its source within the boundaries of the State and flows therein for a distance

of 27 miles until it enters Wyoming; that the use of the waters of the stream by the diversion and application thereof upon lands within the territorial limits of Colorado is essential to the life and well-being of the State and the inhabitants of a large area thereof, and that the right of continued use of such water is as vital to the inhabitants of the lands upon which such waters are to be applied as is the land itself; that the jurisdiction and rights of Wyoming, either in its sovereign capacity or as a proprietor of lands, and the rights of its citizens, do not extend into Colorado, and that under the laws and principles of international and interstate law the sovereign rights of Colorado over the section of the Laramie River and its tributaries rising and flowing within the State are not subservient to the sovereignty or rights of Wyoming; that Wyoming has no dominant estate or jurisdiction in or against Colorado or its people in that part of the river and its tributaries flowing in Colorado; and that Colorado cannot be subjected to the burden of arresting its development by denying to its inhabitants the use of an element which nature has supplied entirely within its own territory, and without which and the use thereof, the lands to which said water is to be applied would be relatively valueless. Colorado further alleges that the average annual run-off from that portion of the stream within her borders is about 300,000 acre feet, and that the annual run-off of the section of the stream within Wyoming is about 500,000 acre feet; that the irrigation system, the operation of which is sought to be enjoined, diverts water from but a small section of the stream and its tributaries lying within Colorado, and that by means of said system Colorado cannot divert more than 70,000 acre feet out of the 300,000 acre feet of the annual run-off of the Colorado sec-

tion of the stream and its tributaries; and, further, that by reason of natural conditions, no more than 90,000 acre feet per annum of the water of the stream can ever be diverted by Colorado for use upon lands lying within the State.

Further, that long prior to the initiation of the present suit, that is to say, on August 25, 1902, when diversions from the entire stream and its tributaries for use within Wyoming did not exceed 50,000 acre feet per annum, predecessors in interest of the corporate defendants commenced construction of the irrigation system complained of for the necessary reclamation of 125,000 acres of rich but arid land lying in the valley of the Cache la Poudre River in Colorado, and that the tunnel through the mountain range and a large part of the mountain diversion canals of the system have been practically completed at a cost of about \$1,200,000. That in aid of said irrigation system defendant Irrigation District was organized under the laws of Colorado and thereafter issued bonds in the amount of \$5,100,000 for the purpose of purchasing and completing said irrigation system, and that about \$2,700,000 of the bonds of said district have been expended in the purchase of water rights and the completion of said irrigation system; that relying upon the diversion of a portion of the waters of the Laramie River and its tributaries in Colorado by means of the tunnel system, citizens have filed upon large bodies of public lands therein under the laws of the United States and have placed valuable improvements and homes thereupon; and that if said diversion is permitted it will enhance the value of the lands within the irrigation district about \$50,000,000, but if denied it will largely destroy the value of said lands and also defeat the

acquisition of title to large areas thereof under the public land laws of the United States.

Colorado further avers that at the time of the initiation of the irrigation enterprise complained of there was, and, if the proposed diversion shall be made there will be, abundant water remaining in the Laramie River and its tributaries to supply all the lands in Wyoming claiming water from said stream under rights which had their origin prior to the commencement of the Colorado enterprise; that the lands within Wyoming to the irrigation of which the water of the Laramie River and its tributaries has been and can be supplied are greatly inferior in productiveness to the lands in Colorado to which the waters herein involved will be applied; and that a greater quantity of water will be used upon the Wyoming lands than upon a like area in Colorado, and that the same quantity of water would produce less returns when applied to Wyoming lands than if applied to lands in Colorado; and that Colorado by diverting a portion of the waters of the river within her borders is not unreasonably exercising her right as a state so to do, and prays that the complaint be dismissed.

The corporate defendants filed like answer and further, after denying the claims of Wyoming, justified their acts under the Constitution and laws of Colorado and claim that in making the diversion complained of they are acting under the authority and with the approval of the defendant State, and that in so doing they are exercising, with the approval of the State, one of its inalienable and sovereign rights, that is, the right to avail itself, through its citizens, of one of its great natural resources; that construction of the enterprise complained of was commenced August 25, 1902, and that since hitherto

the corporate defendants and their predecessors have diligently pursued the work of construction and completion thereof; that about \$2,700,000 of bonds of the irrigation district have been sold to innocent purchasers for value throughout the United States and the proceeds thereof expended upon purchase and completion of said irrigation system; that the payment of said bonds is dependent upon diversion and use of water from the Laramie River; that defendant Irrigation Company, as prior owner of said irrigation system, has contracted to complete the same for the defendant Irrigation District; that said irrigation system will never be able to divert more than 70,000 acre feet of water from the Colorado portion of the Laramie River, and that it is impossible, owing to natural physical conditions, to divert within the State of Colorado, by this and all other irrigation systems, more than 90,000 acre feet of water per annum and that the run-off of said stream and its tributaries furnishes abundant water to satisfy all appropriations in Wyoming earlier in date than those sought to be enjoined herein even after the defendant Irrigation District shall have diverted all available waters by its irrigation system.

Evidence was taken and case presented both on brief and by oral argument December, 1916. Defendants file this supplemental brief pursuant to order for reargument entered herein.

For greater convenience we separate this brief into two volumes: **VOLUME I** is devoted to a discussion of the law of the case, **VOLUME II** to the facts.

ORDER FOR REARGUMENT.

The order restoring this case to the docket for reargument provides:

“1. Counsel are requested to specially direct their attention to the rule which they deem should properly be applied to a solution of the controversy for decision: That is, whether the rights asserted are to be tested and determined solely by the application of the general principles of prior appropriation, without regard to state boundaries, or whether, on the contrary, the general principles of prior appropriation are subject to be restricted or their operation limited in this case by state lines, and if so, by what principles, under that assumption, the case is to be controlled.

2. They are moreover requested not merely by generalizations to state the facts relied upon, but specifically, by careful reference to the pages of the record, and to group them under the various propositions relied upon, including the extent of the use of water in both states when the work complained of was begun and when this suit was commenced, and the extent of appropriation made or authorized in either or both states since its commencement.

3. In view of the legislation of Congress concerning reclamation and the extensive public works which have been constructed under that legislation and the possible consequences which may result from the rule to be applied in the solution of this controversy, the clerk is instructed to notify

the Attorney General of the United States of this order for reargument.”

We shall confine ourselves to discussion of the first two paragraphs or subdivisions of the order.

We feel that the third paragraph calls for a statement from the United States in the first instance and we should not anticipate their position but rather make reply, if occasion so requires.

The first two paragraphs naturally subdivide the discussion into (I) the law of interstate water rights and (II) the facts of this particular case. We shall deal with each of these in their order and separate volumes.

PART I.

THE LAW OF INTERSTATE WATER RIGHTS.

This subdivision demands more than limited notice and citation of authorities.

In order that we may be of any aid to the court in ascertaining the rule of law which shall govern this and similar cases, we must undertake a thorough and exhaustive treatment of the fundamental principles of state and national government, the relations of the states to one another, and the relation of the individual to the state. We realize that the rule of interstate law to be announced in this case may affect not alone Wyoming and Colorado, in their realtions one to the other, but more important still, may control the future relation of the states one to the other and to the United States.

The continued development of our resources, and the growing demands of our citizens and of each of the states must, from time to time in the future, call

for adjustment of controversies between the states which, under the law of nations, treaty or arbitration failing, would be determined by the sword. With this situation before us we shall not limit our presentation of the law to that which we believe should govern this particular case but rather to the broader field of interstate law governing the relation of all the states of the Union in their full or limited jurisdiction over waters within their borders.

I. STATES—NOT INDIVIDUALS—INVOLVED.

Here the rights of two states of the Union are involved and all individual citizens of either and the private rights or claims of any thereof, are necessarily included within whatever rights the respective states may be held to possess.

The State of Colorado and The Greeley-Poudre Irrigation District, a public corporation of Colorado, diverting and applying the waters of the Laramie river through the tunnel system here involved, and The Laramie-Poudre Reservoirs and Irrigation Co., a Colorado corporation previously owning and engaged in construction of the tunnel irrigation system and contracting to complete the same and turn it over to the irrigation district, are parties defendant. The character of parties is the same as in *Kansas v. Colorado* (185 U. S. 125, 206 U. S. 46). In that case Mr. Justice Brewer observed:

“While several of the defendant corporations have answered, it is unnecessary to specially consider their defences, for if the case against Colorado fails it fails also as against them.”

Kansas v. Colorado, 206 U. S. 46, 85.

Whatever the rights of these corporate defendants may be, the controversy is one between two sov-

ereign states (Wyoming and Colorado) and whatever rights the corporate defendants may have or claim, are necessarily included within the greater rights of Colorado. For,

“The creature cannot rule the creator.”

206 U. S. 46, 85.

and the controversy rises above a mere question of local private interest or adjustment of private property rights of citizens of the two states, and is such a controversy as would obtain between independent nations.

Missouri v. Illinois, 180 U. S. 208; 200
U. S. 496;

Kansas v. Colorado, 185, U. S. 125; 206
U. S. 46;

Richey Land & Cattle Co. v. Miller &
Lux, 218 U. S. 258.

In fact, were not such the case, the action would, no doubt, have been dismissed on demurrer.

In determining rights between states, private property rights of citizens of each become of secondary importance, the controversy presents itself along broader lines of sovereign rights and powers of the states under whose jurisdiction the citizen obtains and enjoys his private property and the decision determining the rights of the state necessarily includes those of the private citizens. As well said by Mr. Justice Brewer in *Kansas v. Colorado*:

“Here is a dispute of a justiciable nature which might and ought to be tried and determined. If the two states were absolutely independent nations it would be settled by treaty or by force. Neither of these ways being practicable, it must be settled by decision of this court.

It will be perceived that Kansas asserts a pecuniary interest as the owner of certain tracts along the banks of the Arkansas and as owner of the bed of the stream. We need not stop to consider what rights such private ownership of property might give. * * *

It is the state of Kansas which invokes the action of this court, charging that, through the action of Colorado, a large portion of its territory is threatened with disaster. * * * It is not acting directly and solely for the benefit of any individual citizen to protect his riparian rights. Beyond its property rights it has an interest as a state * * *. Its prosperity affects the general welfare of the state.

The controversy rises therefore, above a mere question of local private right and involves a matter of state interest, and must be considered from that standpoint. *Georgia v. Tennessee Copper Co.*, 206 U. S. 230.

This changes in some respects the scope of our inquiry. It is not limited to the simple matter of whether any portion of the waters of the Arkansas is withheld by Colorado. We must consider the effect of what has been done upon the conditions in the respective states, and so adjust the dispute upon the basis of equality of rights as to secure as far as possible to Colorado the benefits of irrigation without depriving Kansas of the like beneficial effects of a flowing stream."

Kansas v. Colorado, 206 U. S. 46, 98.
In the language of Mr. Justice Holmes:

“The case has been argued largely as if it were one between two private parties; but it is not * * *. This is a suit by a state for an injury to it in its capacity of a quasi-sovereign. In that capacity the state has an interest independent of and behind the titles of its citizens, in all the earth and air within its domain. * * * When the states by their union made the forcible abatement of outside nuisance impossible to each, they did not thereby agree to submit to whatever might be done. They did not renounce the possibility of making reasonable demands on the ground of their still remaining quasi-sovereign interests. An alternative to force is a suit in this court.

*The states by entering the union, did not sink to the position of private owners, subject to one system of private law. This court has not quite the same freedom to balance the harm that will be done by an injunction against that of which the plaintiff complains, that it would have in deciding between two subjects of a single political power. * * * It is a fair and reasonable demand on the part of a sovereign that the air over its territory shall not be polluted * * *. If any such demand is to be enforced this must be notwithstanding the hesitation that we might feel if the suit were between private parties.”*

Georgia v. Tennessee Copper Co., 206
U. S. 230, 237-238.

As previously noted, The Greeley Poudre Irrigation District is a public corporation of Colorado

organized for the purpose of completing the enterprise theretofore undertaken by the other corporate defendant, and of using a relatively small portion of the waters of the Laramie river (as it rises and flows in Colorado) for the irrigation of part of the arid lands of the state. As such it is an agency of the state and whatever powers or rights it may possess it derives from the state. It is similar in this respect to the Sanitary District of Chicago, whose position was thus defined by Mr. Justice Shiras:

“The averment and conceded facts are that the corporation is an agency of the state to do the very things which, according to the theory of the complainants’ case, will result in the mischief to be apprehended. It is state action and its results that are complained of * * *.”

Missouri v. Illinois, 180 U. S. 208, 242.

As observed by Mr. Justice Holmes in a suit involving the private property interests of citizens in different states:

“But whatever this court may decide, if a private owner should derive advantage from such a decision it would not be in his own right, but by reason of and subordinate to the rights of his state.”

Rickey Land & Cattle Co. v. Miller & Lux, 218 U. S. 258, 261.

Such being the nature of the controversy, we shall consider property rights of private citizens to the use of waters of flowing streams (within the state) to the better ascertain the greater rights of the state itself. The law of states, not individuals, is here involved and we shall but incidentally refer to rules of private usufructuary property of citizens.

**II. INDEPENDENT NATIONS—THEIR DIGNITY AND
EQUALITY—THEIR RELATION TO ONE ANOTHER
AND THE RELATION OF THE CITIZEN
TO THE STATE.**

Nations have absolute dominion of everything within their boundaries, including the rivers, streams and waters therein, unless voluntarily surrendered, and the individual property rights of the citizen are only such as the State may grant him. The citizen and his property rights are at all times inferior and subordinate to the state or nation.

Vattel in his "Law of Nations" (1872 Ed. Chitty) thus defines the rights of independent nations; their dignity and equality, their relation to one another, to their own citizens and to the citizens of one another;—and the relation of the citizen to the state in his property rights:

"Every nation, every sovereign and independent state, deserves consideration and respect, because it makes an immediate figure in the grand society of the human race, is independent of all earthly power, and is an assemblage of a great number of men, which is, doubtless, more considerable than any individual. The sovereign represents his whole nation; he unites in his person all its majesty. No individual, though ever so free and independent, can be placed in competition with a sovereign; this would be putting a single person upon an equality with a united multitude of his equals. Nations and sovereigns are, therefore, under an obligation, and at the same time have a right, to maintain their dignity, and to cause it to be respected, as being of the utmost importance to their safety and tranquility.

We have already observed that nature has established a perfect equality of rights between independent nations. Consequently, none can naturally lay claim to any superior prerogative; for, whatever privileges any one of them derives from freedom and sovereignty, the others equally derive the same from the same source." (pp. 148-9.)

"It is a settled point with writers on the *natural* law, that all men inherit from *nature* a perfect *liberty* and *independence*, of which they cannot be deprived without their own consent. In a state, the individual citizens do not enjoy them *fully* and absolutely, because they have made a *partial* surrender of them to the sovereign. But the body of the nation, the state, remains absolutely free and independent with respect to all other men, and all *other* nations, as long as it has not voluntarily submitted to them." (p. 53.)

"We have explained how a nation takes possession of a country, and at the same time gains possession of the domain and government thereof. That country, everything included in it, becomes the property of the nation in general. Let us now see what are the effects of this property, with respect to other nations. The full domain is necessarily a peculiar and exclusive right; for, if I have a full right to dispose of a thing as I please, it thence follows that others have no right to do it at all, since if they had any, I could not freely dispose of it. The private domain of the citizens may be limited and restrained in several

ways by the laws of the state, and it always is so by the eminent domain of the sovereign; but the general domain of the nation is full and absolute; since there exists no authority upon earth by which it can be limited; it therefore excludes all right on the part of foreigners. And, as the rights of a nation ought to be respected by all others, none can form any pretensions to the country which belongs to that nation, nor ought to dispose of it without her consent, any more than of the things contained in the country.

The domain of the nation extends to everything she possesses by a just title; it comprehends her ancient and original possessions, and all her acquisitions made by means which are just in themselves, or admitted as such among nations,—concessions, purchases, conquests made in the regular war, etc. And by her possessions we ought not only to understand her territories, but all the rights she enjoys.

Even the property of the individuals is, in the aggregate, to be considered as the property of the nation, with respect to other states. It, in some sort, really belongs to her, from the right she has over the property of her citizens, because it constitutes a part of the sum total of her riches, and augments her power. She is interested in that property by her obligation to protect all her members. In short, it cannot be otherwise, since nations act and treat together as bodies in their quality of political societies, and are considered as so many moral persons.

All those who form a society, a nation being considered by foreign nations as constituting only one whole, one single person all their wealth together can only be considered as the wealth of that same person. And this is so true, that each political society may, if it pleases, establish within itself a community of goods, as Campanella did in his republic of the sun. Others will not inquire what it does in this respect; its domestic regulations make no change in its rights with respect to foreigners nor in the manner in which they ought to consider the aggregate of its property, in what way soever it is possessed." (pp. 163-4.)

In the early case of *Schooner Exchange v. McFadden*, Chief Justice Marshall thus defined the jurisdiction of a nation within its own territory.

"The jurisdiction of the nation within its own territory is necessarily exclusive and absolute. It is susceptible of no limitation not imposed by itself. Any restriction upon it, deriving validity from an external source, would imply a diminution of its sovereignty to the extent of the restriction, and an investment of that sovereignty to the same extent in that power which would impose such restriction. All exceptions, therefore, to the full and complete power of a nation, within its own territories, must be traced up to the consent of the nation itself. They can flow from no other legitimate source."

Schooner Exchange v. McFaddon, 7
Cranch. 116, 136.

In *Rhode Island v. Massachusetts* (1838) Mr. Justice Baldwin said:

“Neither state can have any right beyond its territorial boundary. It follows, that when a place is within a boundary, it is a part of the territory of a State; title, jurisdiction, and sovereignty are inseparable incidents, and remain so till the State makes some cession. * * * ‘The jurisdiction of a State is co-extensive with its territory, co-extensive with its legislative power.’ * * * Whether the sovereignty of the United States, of a State, or the property of an individual, depends on the locality of a tree, a stone, or watercourse; whether the right depends on a charter, treaty, cession, compact, or a common deed; the right is to territory great or small in extent, and power over it, either of government or private property; the title of a State is sovereignty, full and absolute dominion; 2 Pet. 300, 301; the title of an individual is such as the State makes it by its grant and law.”

Rhode Island v. Massachusetts, 12 Pet. 657, 733-4.

Vattel thus speaks of rivers, streams and lakes:

“When a nation takes possession of a country, with a view to settle there, it takes possession of everything included in it, as lands, lakes, rivers, etc.”

He then treats of the various uses of rivers and the relations of the State and citizens thereto and continues:

“What we have said of rivers and streams, may be easily applied to lakes. Every lake, entirely included in a country, belongs to the nation that is the proprietor of that country; for in taking possession of

a territory a nation is considered as having appropriated to itself everything included in it; and, as it seldom happens that the property of a lake of any considerable extent falls to the share of individuals, it remains common to the nation. * * * The empire or jurisdiction over lakes and rivers is subject to the same rules as the property of them, in all of the cases which we have examined. Each State naturally possessed it over the whole or the part of which it possesses the domain. We have seen that the nation, or its sovereign, commands in all places in its possession.”

Vattel's Law of Nations (1872 Edition),
120, 123, 125.

**III. STATES OF THE UNITED STATES INDEPENDENT
NATIONS, SAVE FOR POWERS SURRENDERED
TO THE UNITED STATES.**

Each state of the Union, new or original, has the same unlimited jurisdiction over all persons and things, within its territorial limits, as any foreign nation, where that jurisdiction has not been surrendered to the United States by the Constitution. This rule has been so frequently announced and confirmed by this court that limited citation will for the present suffice.

The many cases dealing with state jurisdiction over waters, next to be reviewed, are likewise authority for this fundamental principle of our government.

In the early case of *New York v. Miln*, Mr. Justice Barbour thus defines the sovereignty of a state of the United States:

“That a state has the same undeniable and unlimited jurisdiction over all persons

and things, within its territorial limits, as any foreign nation where that jurisdiction is not surrendered or restrained by the Constitution of the United States. That, by virtue of this, it is not only the right, but the bounden and solemn duty of a state, to advance the safety, happiness and prosperity of its people, and to provide for its general welfare, by any and every act of legislation, which it may deem to be conducive to these ends; where the power over the particular subject or the maner of its exercise is not surrendered or restrained, in the manner just stated.”

New York v. Miln, 11 Pet. 102, 139.

In *Chisholm v. Georgia*, 2 Dall. 419, 435:

“Every state in the Union, in every instance where its sovereignty has not been delegated to the United States, I consider it to be as completely sovereign as the United States are in respect to the powers surrendered. The United States are sovereign as to all the powers of government actually surrendered. Each state in the Union is sovereign as to all the powers reserved. It must necessarily be so, because the United States have no claim to any authority but such as the states have surrendered to them. Of course the part not surrendered must remain as it did before.”

In *Texas v. White*, 7 Wall. 700, 725:

“But the perpetuity and indissolubility of the Union, by no means implies the loss of distinct and individual existence, or of the right of self-government by the states. Under the Articles of Confederation each

state retained its sovereignty, freedom, and independence, and every power, jurisdiction, and right not expressly delegated to the United States. Under the Constitution, though the powers of the states were much restricted, still, all powers not delegated to the United States, nor prohibited the states, are reserved to the states respectively, or to the people. And as we have already had occasion to remark at this term, that 'the people of each state compose a state, having its own government, and endowed with all the functions essential to separate and independent existence,' and that 'without the states in union, there could be no such political body as the United States.' (Citing *County of Lane v. State of Oregon*, 7 Wall. 76.) 'Not only, therefore, can there be no loss of separate and independent autonomy to the states, through their union under the Constitution, but it may be not unreasonably said that the preservation of the states, and the maintenance of their governments, are as much within the design and care of the Constitution as the preservation of the Union and the maintenance of the National Government. The Constitution, in all its provisions, looks to an indestructible Union, composed of indestructible states.'

See also:

Taylor on International Law, Sec 124;
1st Wharton Dig. International Law,
Sec. 1;
Pennoyer v. Neff, 95 U. S. 722.

As we shall next observe, in the many authorities we shall review, no surrender is made of the un-

limited jurisdiction of each of the states over the rivers, streams and waters within its boundaries, save for regulation of navigation. This is thus re-announced and affirmed by Mr. Justice Brewer:

“We have within our borders extensive tracts of arid lands which ought to be reclaimed, and it may well be that no power is adequate for their reclamation other than that of the national government. *But if no power has been granted, none can be exercised.* * * * While arid lands are to be found mainly, if not only, in the Western and newer states, yet the powers of the national government within the limits of those states are the same (no greater and no less) than those within the limits of the original thirteen; and it would be strange if, in the absence of a definite grant of power, the national government could enter the territory of the states along the Atlantic and legislate in respect to improving, by irrigation or otherwise, the lands within their borders. * * *

It is enough for the purposes of this case that *each state has full jurisdiction over the lands within its borders, including the beds of streams and other waters.*” (Italics ours.)

Kansas v. Colorado, 206 U. S. 46, 93.

All laws for regulation and control of uses of or usufructuary titles in water necessarily come from some law making sovereign power, state or national, and a more extensive review of the authorities upon the jurisdiction of the states over the waters within their borders is necessary before proceeding to a

discussion of the doctrine of prior appropriation as one of local, not interstate law.

**IV. JURISDICTION OF STATES OF THE UNITED STATES
OVER THE STREAMS AND WATERS WITHIN
THEIR BORDERS.**

Analytical treatment of the general subject of the jurisdiction of each state of the Union over the use of waters within its domain and the acquisition by the citizen of usufructuary titles therein, subject at all times to the paramount title of the state, would doubtless lead to a clearer discussion; but we are confronted at the very threshold with such an abundance of authority and such a wealth of precedent and discussion, involving necessarily the individual methods of treatment by each jurist and author, that so to subdivide the discussion, would necessitate so frequent duplication and repetition as to tire and annoy and thus make sacrifice of the benefits otherwise gained. We shall accordingly treat the subject generally, rather than in specific subdivisions, quoting more liberally than we would were the subject of less importance.

A comprehensive discussion necessarily involves consideration of the fundamental principles of government, the rights and powers of independent states and of states of the United States, in their relations not alone to their own citizens and the citizens of other states, but more essentially to each other and to the United States. The power to regulate the use of waters within its domain must necessarily rest with the state, unless in some manner limited by voluntary surrender of all or some portion of such power to the other states or to the United States in the Constitution.

(1) GENERAL STATEMENT.

At the outset, rather than in conclusion, we find that the authorities with remarkable unanimity announce and affirm certain general principles and conclusions which may be summarized as follows :

Each nation has jurisdiction and sovereign control over the waters of the flowing streams within its domain. Each of the original thirteen states of the United States possessed all of the powers of separate nations at the time of the formation of the Union. After the Union each of these original states retained and thereafter continued to exercise all of such rights, powers and jurisdiction formerly held, save as surrendered to the United States by the Constitution. Each of the original thirteen states, before the Constitution, was in all respects equal with the other independent states and each had the same sovereign powers of independent nations. After the adoption of the Constitution each state continued equal in all respects with all the rest. Each of the new states was admitted to the Union on an absolute equality with the original thirteen states and was and is possessed of the same powers and jurisdiction over the streams within its borders as were retained by the original states at the time of the adoption of the Constitution. Each state, old or new, stands upon an equality with all of the rest and the powers of the new states are no less and no greater than those of the original thirteen.

Whatever sovereign jurisdiction the United States may have exercised over the territories, upon admission to the Union, the sovereign powers theretofore exercised by Congress over the territories ceased to exist and passed to the new states upon admission. This sovereign jurisdiction extended to the

waters and streams within their borders to the same degree as with the original thirteen states. This control of the streams included the right to determine the use that may be made of the waters of the state by its citizens whether for navigation (except as delegated to Congress), fisheries, power, municipal supply, and domestic, irrigation, or any other use necessary to the state or its citizens according to the varying demands and conditions of the territory included within each of the new states, including the right to fix by local laws, rules and regulations the extent to which a usufructuary property in such waters may be obtained and enjoyed and the class of property owners (i. e., riparian, non-riparian, etc.) who may so possess and enjoy the use thereof, subject at all times to the greater right of the sovereign control remaining within the state. The uses thus recognized as limited property rights in the citizens of the respective states, and, so controlled by the conditions obtaining, have been determined by each state according to its own necessities and fixed by its local laws and decisions, and the United States and its courts have adopted the state laws, regulations and court decisions as the rules controlling within their respective jurisdictions.

No power was delegated to congress to determine the laws, rules or methods of use that should apply within the states and Congress, wherever it has legislated upon the subject with respect to public lands, has not only refused to infringe upon the powers of the states, but has specifically recognized the local laws, customs and court decisions as controlling upon the regulation of the streams within the states.

In the exercise of jurisdiction of the streams within their borders, each of the states of the Union

has fixed its own methods of regulation and control, varying to a greater or less degree in each thereof, according to the varied local conditions and necessities. In the states where irrigation is unnecessary, usufructuary titles under the common law rule of riparian rights have been recognized and permitted to a limited number of citizens (the owners of land bordering upon the streams) to the exclusion of other citizens, and even in such states the rules announced and the limits to the exercise of the usufructuary rights have varied in each of such states according to the local conditions and the necessities of the state and its people. In other states where the rainfall is insufficient to supply the necessities of the state and its citizens, usufructuary titles to the waters of the streams have been permitted to a limited class of citizens (viz.: the first appropriator for use on any lands, riparian or non-riparian, according to the extent of his beneficial use) under the arid region doctrine of appropriation. While in still others combining both humid and arid natural conditions (as California, Nebraska, etc.) usufructuary titles have been recognized under both the common law doctrine of riparian rights and the arid region doctrine of appropriation; and in all the states of the Union the doctrines, varied by local conditions, have been from time to time modified, enlarged or restricted according to the necessities obtaining, to such a degree that in no two of the states adopting a given general rule or combination of rules, are the laws, decisions or manner of regulating these usufructuary rights identical.

An extended review of the history of the development of the law of waters of each of the states, reveals an ever changing progression conforming to the conditions there prevailing, written by legisla-

tion and decisions of her courts and varying or departing to a greater or less degree, especially in the application of the fundamental principles, from the rules of similar states where like conditions generally obtain (for example, the variance between the application of the common law doctrine in New Jersey and California, California and Oregon, Oregon and Nebraska, or the variance in the application of the arid region doctrine in Nevada and Wyoming, and Wyoming and Colorado).

Finally each state has the right to adopt laws of her choice and thereafter to alter, enlarge or modify the same according to her conditions and her necessities and those of her people. Irrespective of the distinguishing features of the laws of each of the states the one predominant feature remains that all of the states have from the first history of the United States executed full control, save as surrendered in the federal Constitution, over the waters within their borders, and no state has imposed or could, if she would, impose her doctrines upon her neighbor and Congress cannot enforce any doctrine upon any state or group of states. Each state has at all times jealously guarded her paramount and sovereign powers and title over the waters within her borders and has at all times limited the enjoyment of this her oft-times greatest natural resource, to usufructuary uses to only limited numbers of her citizens for the development of such limited portions of her area as would best serve the state and all her people. In humid states she has with equality recognized the usufructuary rights of riparian owners and excluded, to a greater or less degree, all others not included within this particular class. In arid states she has limited the beneficial use of her waters to the first to make use thereof, without respect to the location of the

lands, to the exclusion of those who subsequently desired the same; and at all times in her paramount and reserved right and power, she had modified, enlarged or restricted her rules and doctrines to suit her local conditions and growing necessities.

(2) DISCUSSION OF AUTHORITIES—STATE JURISDICTION OF WATERS.

From the abundance of authority, we shall confine ourselves primarily to a discussion of and citations from the decisions of this Court and of other Federal courts, and shall refrain from reference to numerous decisions of State courts, except where properly involved in the consideration of some decision of this Court or, in a few instances, where decisions of this Court have been relied upon by the state courts in applying the principles here involved. But limited reference will be made to accredited authors and then only for brevity and to avoid unduly prolonging the quotations from decisions, already extended out of ample caution and a consideration of the importance of the subject.

While an arrangement of authorities in groups according to the principles involved, might, to some degree, be more satisfactory, nevertheless we have preferred to follow the history of interpretation of the law of state jurisdiction of waters in the order of announcement by the courts of the land. We shall refer to national legislation in a separate and subsequent portion of this brief.

(a) Decisions of the Courts.

From the earliest decisions of this court to the present time, all uses of water for navigation, fisheries, power, domestic, irrigation and other beneficial purposes have been treated as within the sovereign

jurisdiction and control of the several states of the Union, (save alone for the paramount right of Congress in its control of navigation) and the laws of the states and decisions of their courts, have been universally recognized as controlling, by this court. We shall, therefore, make no distinction by segregation of the cases dealing with the various uses, but shall treat them as governed by one general principle of state control.

Willson vs. The Blackbird Creek Marsh Co. (1829) involved the right of Delaware to permit a Delaware corporation to dam a navigable creek and thereby interfere with navigation. Opinion by Chief Justice Marshall:

“The act of assembly by which the plaintiffs were authorized to construct their dam, shows plainly that this is one of those many creeks, passing through a deep level marsh adjoining the Delaware, up which the tide flows for some distance. The value of the property on its banks must be enhanced by excluding the water from the marsh, and the health of the inhabitants probably improved. Measures calculated to produce these objects, provided they do not come into collision with the powers of the general government, are undoubtedly within those which are reserved to the States. But the measure authorized by this act stops a navigable creek, and must be supposed to abridge the rights of those who have been accustomed to use it. But this abridgement, unless it comes in conflict with the constitution or a law of the United States, is an affair between the government of Dela-

ware and its citizens of which this court can take no cognizance.”

Willson vs. Blackbird Creek Marsh Co.
2 Pet. 245.

Martin vs. Waddell (1842) involved the question of title in certain lands covered with water in New Jersey. Opinion by Mr. Justice Taney:

“The English possessions in America were not claimed by right of conquest but by right of discovery * * * and the absolute rights of property and dominion were held to belong to the European nation by which any particular portion of the country was first discovered. * * * The discoveries made by persons acting under the authority of the government were for the benefit of the nation; and the crown, according to the principles of the British constitution, was the proper organ to dispose of the public domains; and upon these principles rest the various charters and grants of territory made on this continent.”

Of sovereign rights to waters within the borders of the states it is said:

“When the Revolution took place, the people of each State became themselves sovereign; and in that character hold the absolute right to all their navigable waters and the soils under them for their own common use, subject only to the rights since surrendered by the constitution to the general government.”

Martin vs. Waddell, 16 Pet. 367, 409, 410.

Pollard vs. Hagan (1844) involved a question of title in certain lands in Mobile Bay, Alabama,

overflowed at high tide: Opinion by Mr. Justice M'Kinley:

“And we now enter into its examination with a just sense of its great importance to all the States of the Union, and particularly to the new ones. Although this is the first time we have been called upon to draw the line that separates the sovereignty and jurisdiction of the government of the Union, and the state governments, over the subject in controversy, many of the principles which enter into and form the elements of the question have been settled by previous well considered decisions of this court, to which we shall have occasion to refer in the course of this investigation.”
(3 How. 212, 220.)

To the argument that the United States derived title from the King of Spain and succeeded to all his rights and jurisdiction over the territory ceded and therefore held the land and the soil under navigable waters according to the laws of Spain,—that Alabama, by her compact with the United States on admission to the Union, agreed that the people of Alabama forever disclaimed all title to unappropriated lands lying within the state and that by such compact the land under navigable waters, as well as the public domain above high water, were reserved to the United States, he said:

“We think a proper examination of this subject will show that the United States never held any municipal sovereignty, jurisdiction, or right of soil in and to the territory, of which Alabama or any of the new states were formed, except for temporary

purposes, and to execute the trusts created by the acts of Virginia and Georgia legislatures, and the deeds of cession executed by them to the United States, and the trust created by the treaty with the French republic, of the 30th of April, 1803, ceding Louisiana" (page 221).

He then discusses the derivation of title to the territory of Alabama and the legislative acts of the United States and of the states of Georgia and Virginia and says:

"When the United States accepted the cession of the territory, they took upon themselves the trust to hold the municipal eminent domain for the new States, and to invest them with it, to the same extent, in all respects, that it was held by the States ceding the territories. * * *

When Alabama was admitted into the Union, on an equal footing with the original States, she succeeded to all the rights of sovereignty, jurisdiction, and eminent domain which Georgia possessed at the date of the cession, except so far as this right was diminished by the public lands remaining in the possession and under the control of the United States, for the temporary purposes provided for in the deed of cession and the legislative acts connected with it. Nothing remained to the United States, according to the terms of the agreement, but the public lands. And, if an express stipulation had been inserted in the agreement, granting the municipal right of sovereignty and eminent domain to the United States,

such stipulation would have been void and inoperative, because the *United States have no constitutional capacity to exercise municipal jurisdiction, sovereignty or eminent domain within the limits of a State* or elsewhere, except in the cases in which it is expressly granted" (page 223).

After observing that only in the District of Columbia and other places purchased and used for forts, magazines, arsenals, dock-yards and other government buildings, "the national and municipal powers of the government, of every description, are united in the government of the Union," except in cases theretofore mentioned of temporary territorial governments and that even there such a local government existed, he further said:

"The right of Alabama and *every other new State*, to exercise all the powers of government, which belong to, and may be exercised by the original States of the Union, must be admitted, and remain unquestioned, except so far as they are temporarily deprived of control over the public lands. * * * The right of the United States to these lands * * * originated in voluntary surrenders made by several of the old States, of their waste and unappropriated lands to the United States, under a resolution of the old congress, of the 6th of September, 1780, recommending such surrender and cession, to aid in paying the public debt, incurred by war of the Revolution. The object of all the parties to these contracts of cession was, to convert the land into money, for the payment of the debt, and to erect new States

over the territory thus ceded; and as soon as these purposes could be accomplished, the power of the United States over these lands, as property, was to cease. * * *

We, therefore, think the United States hold the public lands within the new States by force of the deeds of cession, and the statutes connected with them, and not by any municipal sovereignty which it may be supposed to possess, or have reserved by compact with the new States, for that particular purpose. The provision of the constitution above referred to, shows that no such power can be exercised by the United States within a State. Such a power is not only repugnant to the constitution, but it is inconsistent with the spirit and intention of the deeds of cession." (page 224.)

After discussing the power of Congress to make rules and regulations respecting its own territory, he said:

"And this brings us to the examination of the question, whether Alabama is entitled to the shores of the navigable waters, and the soils under them, within her limits. The principal argument relied on against this right, is, that the United States acquired the land in controversy from the king of Spain.
* * * * *

If it were true that the United States acquired the whole of Alabama from Spain, no such consequences would result as those contended for. It cannot be admitted that the king of Spain could, by treaty or otherwise, impart to the United States any of his royal prerogatives; and much less can it be

admitted that they have capacity to receive or power to exercise them. Every nation acquiring territory, by treaty or otherwise, must hold it subject to the constitution and laws of its own government, and not according to those of the government ceding it. *Vat. Law of Nations*, B. 1, c. 19 Secs. 210, 244, 245, and b. 2, c. 7, Sec. 80." (p. 225.)

After a discussion of the Spanish cession, the ordinance of 1787 and the treaty with France, all of which gave to the United States the whole of the territory, he said:

"Alabama is, therefore, entitled to the sovereignty and jurisdiction over all the territory within her limits. * * * To maintain any other doctrine, is to deny that Alabama has been admitted into the Union on an equal footing with the original States, the constitution, laws, and compact, to the contrary notwithstanding. But her rights of sovereignty and jurisdiction are not governed by the common law of England as it prevailed in the colonies before the Revolution, but as modified by our own institutions. In the case of *Martin and others v. Waddell*, 16 Pet. 410, the present chief justice, in delivering the opinion of the court, said:

'When the Revolution took place, the people of each State became themselves sovereign; and in that character hold the absolute right to all their navigable waters, and the soils under them, for their own common use, subject only to the rights since surrendered by the constitution.'

Then to Alabama belong the navigable

waters, and soils under them, in controversy in this case, subject to the rights surrendered by the constitution to the United States; and no compact that might be made between her and the United States could diminish or enlarge these rights." (page 229).

Of the provision in the enabling act of Alabama declaring that all navigable waters within the State should forever remain public highways, etc., and its alleged conflict with the federal constitution, he said:

"By the 8th section of the 1st article of the constitution, power is granted to congress 'to regulate commerce with foreign nations and among the several States.' If, in the exercise of this power, congress can impose the same restrictions upon the original States, in relation to their navigable waters, as are imposed by this article of the compact on the State of Alabama, then this article is a mere regulation of commerce among the several States, according to the constitution, and, therefore, as binding on the other States as Alabama. * * * As the provision of what is called the compact between the United States and the State of Alabama does not, by the above reasoning, exceed the power thereby conceded to congress over the original States on the same subject, no power or right was, by the compact, intended to be reserved by the United States nor to be granted to them by Alabama.

This supposed compact is, therefore, nothing more than a regulation of commerce

to that extent among the several states, and can have no controlling influence in the decision of the case before us.

This right of eminent domain over the shores and the soils under the navigable waters, for all municipal purposes, belongs exclusively to the States within their respective territorial jurisdictions, and they, and they only, have the constitutional power to exercise it. * * * But in the hands of the States this power can never be used so as to affect the exercise of any national right of eminent domain or jurisdiction with which the United States have been invested by the constitution."

He then concludes:

"By the preceding course of reasoning we have arrived at these general conclusions: First, the shores of navigable waters, and the soils under them, were not granted by the constitution to the United States, but were reserved to the States respectively. Secondly, the new States have the same rights, sovereignty, and jurisdiction over this subject as the original States. Thirdly, the right of the United States to the public lands, and the power of congress to make all needful rules and regulations for the sale and disposition thereof, conferred no power to grant to the plaintiffs the land in controversy in this case." (p. 230.)

Holyoke Water-Power Co. v. Lyman (1873) involved construction of certain acts of the Massachusetts legislature granting the right to dam the Connecticut River for power and other purposes. It also involved the question of the interference with the

fisheries of the stream. Opinion by Mr. Justice Clifford:

“Rivers, though not navigable even for boats or rafts, and even smaller streams of water, may be and often are regarded as public rights, subject to legislative control, as the means for creating power for operating mills and machinery, or as the source for furnishing a valuable supply of fish, suitable for food and sustenance. Such water-power is everywhere regarded as a public right, and fisheries of the kind, even in waters not navigable, are also so far public rights that the Legislature of the State may ordain and establish regulation to prevent obstructions to the passage of the fish and to promote the usual and uninterrupted enjoyment of the right by the riparian owners. * * * Water rights of the kind, whether the streams are used for mill purposes or merely as fisheries, are justly entitled to public protection, as they are in many cases of great value to the community where they exist.”

“Public rights, in all jurisdictions, are subject to legislative control, and it is settled law in Massachusetts, and has been for a century and a half, including her colonial history, that the right of fishery in such rivers as the Connecticut and Merrimac, even above the point where they are navigable for boats or rafts, and the right to erect and maintain dams to create water-power for mill purposes, are public rights and that the owners of such rights are bound

by such reasonable regulations as the State may make and ordain for their protection and enjoyment.”

Holyoke Water-Power Co. v. Lyman, 82
U. S. 133, 135, 136, 138; 15 Wall.
500.

Barney v. Keokuk (1877) involved the question of title in certain “made” lands on the water front of Keokuk. Opinion by Mr. Justice Bradley, who after considering the local law of Iowa, as interpreted by its courts, to the effect that the title of riparian proprietors on the Mississippi extends only to the high water mark and that the shore between the high and low water mark as well as the bed of the river, belongs to the State; and after observing that the confusion of navigable with tide waters found in the common law had long prevailed in this country, and had laid the foundation, in many States, of doctrines with regard to the ownership of soil in navigable waters above tide water, he said:

“Whether, as rules of property, it would now be safe to change these doctrines where they have been applied, as before remarked, is for the several States themselves to determine. If they choose to resign to the riparian proprietor rights which properly belong to them in their sovereign capacity, it is not for others to raise objections. In our view of the subject, the correct principles were laid down in *Martin v. Waddell*, 16 Pet. 367, *Pollard v. Hagan* (*supra*), and *Goodtitle v. Kibbe*, 9 How. 471.

It properly belongs to the States by their inherent sovereignty, and the United States has wisely abstained from extending (if it could extend) its survey and grants be-

yond the limits of high water. The cases in which this court has seemed to hold a contrary view depended, as most cases must depend, on the local laws of the States in which the lands were situated.”

Barney v. Keokuk, 94 U. S. 324.

McCready v. Virginia (1877) involved the right of Virginia to prohibit the citizens of other States from planting oysters in the Ware River, when its own citizens have that privilege. Opinion by Mr. Chief Justice Waite:

“The principle has long been settled in this court, that each State owns the beds of all tide-waters within its jurisdiction, unless they have been granted away. * * * In like manner, the States own the tide-waters themselves, and the fish in them, so far as they are capable of ownership while running. For this purpose the State represents its People, and the ownership is that of the People in their united sovereignty. *Martin v. Waddell*, 16 Pet. 410.

The title thus held is subject to the paramount right of navigation, the regulation of which, in respect to foreign and interstate commerce, has been granted to the United States. There has been, however, no such grant of power over the fisheries. These remain under the exclusive control of the State, which has consequently the right, in its discretion, to appropriate its tide-waters, and their beds to be used by its People as a common for taking and cultivating fish, so far as it can be done without obstructing navigation.

Such an appropriation is, in effect,

nothing more than a regulation of the use by the People of their common property. The right which the People of the State thus acquire comes not from their citizenship alone, but from their citizenship and property combined. It is, in fact, a property right, and not a mere privilege or immunity of citizenship."

McCready v. Virginia, 94 U. S. 391.

Pound v. Turck (1878) involved the right of the State of Wisconsin to authorize the construction of dams across the Chippewa river and the interference thereof with navigation. After stating that the want of power was supposed to rest on the repugnance of the Wisconsin statute to the provisions of the federal constitution conferring authority upon Congress "to regulate commerce with foreign nations, and among the several States," Mr. Justice Miller said:

"The principle established by the decisions to which we have referred is, that, in regard to the powers conferred by the commerce clause of the Constitution, there are some which by their essential nature are exclusive in Congress, and which the States can exercise under no circumstances; while there are others which from their nature may be exercised by the States until Congress shall see proper to cover the same ground by such legislation as that body may deem appropriate to the subject. Of this class are pilotage and other port regulations, *Cooley v. Bd. of Wardens*, 12 How. 299; bridges across navigable streams, *Gilman v. Philadelphia*; and, as specially applicable to the case before us, to erect dams across navigable streams, *Willson v. Black-*

bird Cr. M. Co., 2 Pet. 245. This general doctrine was very fully examined and sustained in *Gilman v. Philadelphia*, 3 Wall. 713, and again in *Crandall v. Nevada*, 6 Wall. 35. * * *

But to the Legislature of the State may be most appropriately confided the authority to authorize these structures where their use will do more good than harm, and to impose such regulations and limitations in their construction and use as will best reconcile and accommodate the interest of all concerned in the matter. And since the doctrine we have deduced from the cases recognizes the right of Congress to interfere and control the matter whenever it may deem it necessary to do so, the exercise of this limited power may all the more safely be confided to the local Legislatures."

Pound v. Turck, 95 U. S. 459, 462, 464.

Escanaba Co. v. Chicago, (1882) involved construction of a bridge across the Chicago River, a navigable stream of Illinois, under the laws of that State. Opinion by Mr. Justice Field:

"But the States have full power to regulate within their limits matters of internal police, including in that general designation whatever will promote the peace, comfort, convenience and prosperity of their people. This power embraces the construction of roads, canals, and bridges, and the establishment of ferries, and it can generally be exercised more wisely by the States than by a distant authority. * * * If the power of the State and that of the Federal government come in conflict, the latter must control

and the former yield. This necessarily follows from the position given by the Constitution to legislation in pursuance of it, as the supreme law of the land. But until Congress acts on the subject, the power of the State over bridges across its navigable streams is plenary. This doctrine has been recognized from the earliest period, and approved in repeated cases, the most notable of which are *Willson v. The Blackbird Creek Marsh Co.*, 2 Pet. 245, decided in 1829 and *Gilman v. Philadelphia*, 3 Wall. 713, decided in 1865."

In denying that the ordinance of July 13, 1787, for the government of the territory northwest of the Ohio River could bind the State of Illinois after its admission, he said:

"Its provisions could not control the authority and powers of the State after her admission. Whatever the limitation upon her powers as a government whilst in a territorial condition, whether from the ordinance of 1787 or the legislation of Congress, it ceased to have any operative force, except as voluntarily adopted by her, after she became a State of the Union. On her admission she at once became entitled to and possessed of all the rights of dominion and sovereignty which belonged to the original States. She was admitted and could be admitted, only on the same footing with them. The language of the resolution admitting her is 'on an equal footing with the original States in all respects whatever.' 3 Stat. 536. Equality of constitutional right and

power is the condition of all the States of the Union, old and new. Illinois, therefore, as was well observed by counsel, could afterwards exercise the same power over rivers within her limits that Delaware exercised over Black Bird Creek, and Pennsylvania over the Schuylkill River.”

Escanaba Co. v. Chicago, 107 U. S. 678, 683, 687, 688.

Cardwell v. American Bridge Co. (1885), involved an action for the removal of a bridge across the American River, California, as an interference with navigation. Opinion by Mr. Justice Field:

“The questions thus presented are neither new nor difficult of solution. Except in one particular, they have been considered and determined in many cases, of which the most important are *Willson v. Blackbird Creek Marsh Co.*, 2 Pet. 245; *Pennsylvania v. Wheeling Bridge Co.*, 13 How. 518, 564; *Gilman v. Philadelphia*, 3 Wall. 713; *Pound v. Turck*, 95 U. S. 459; *Escanaba Co. v. Chicago*, 107 U. S. 678, and *Miller v. Mayor of New York*, 109 U. S. 385. In these cases the control of Congress over navigable waters within the States so as to preserve their free navigation under the commercial clause of the Constitution, the power of the States within which they lie to authorize the construction of bridges over them until Congress intervenes and supersedes their authority, and the right of private parties to interfere with their construction or continuance, have been fully considered, and we

are entirely satisfied with the soundness of the conclusions reached."

Of the contention that a clause in the enabling act admitting California as a State, declaring all navigable waters within the State to be common highways and forever free, etc., a declaration similar to that in the ordinance of 1787, he said:

"And in *Escanaba Co. v. Chicago*, we held, with respect to the State of Illinois, that the clause was superseded by her admission into the Union, for she then became entitled to and possessed of all the rights of domain and sovereignty which belonged to the original States. The language of the resolution admitting her declared, that it was on 'an equal footing with the original States in all respects whatever;' so that, after her admission, she possessed the same power over rivers within her limits that Delaware exercised over Blackbird Creek and Pennsylvania over Schuylkill River.

* * *

The clause, therefore, in the act admitting California, quoted above, upon which the complainant relies, must be considered, according to these decisions, as in no way impairing the power which the State could exercise over the subject if the clause had no existence. * * * The act admitting California declares that she is 'admitted into the Union on an equal footing with the original States *in all respects whatever.*' She was not, therefore, shorn by the clause as to navigable waters within her limits of any of the powers which the original States

possessed over such waters within their limits.”

Cardwell v. American Bridge Co., 113
U. S. 205, 208, 210-12.

In *St. Louis v. Myers* (1885), of rights of riparian owners it is said:

“They are left to be settled according to the principles of State law.”

St. Louis v. Myers, 113 U. S. 566, 567.

Hamilton v. Vicksburg etc. R. R. (1886) involved repair of a bridge over Bouff River, Louisiana, temporarily interfering with navigation. Opinion by Mr. Justice Field:

“What the form and character of the bridges should be, * * * were matters for the regulation of the State, subject only to the paramount authority of Congress to prevent any unnecessary obstruction to the free navigation of the streams. Until Congress intervenes in such cases, and exercises its authority, the power of the State is plenary. When the State provides for the form and character of the structure, its directions will control, except as against the action of Congress, whether the bridge be with or without draws, and irrespective of its effect upon navigation.”

In answer to the contention that the clause in the enabling act of Louisiana providing that the river Mississippi, etc., should be common highway and forever free, and that therefore Congress had previously acted in respect to the stream in question, he said:

“A similar provision is found in the acts admitting the States of California, Wisconsin, and Illinois into the Union, with re-

spect to the navigable rivers and waters in them, the purport and meaning of which have been the subject of consideration by this Court. *Escanaba Co. v. Chicago*, 107 U. S. 678, and *Cardwell v. American Bridge Company*, 113 U. S. 205. In the latter case, we had before us the clause in the act admitting California, and we held that it did not impair the power which the State could exercise over its rivers, even if the clause had no existence."

Hamilton vs. Vicksburg, etc., R. R. 119
U. S. 280, 281.

Willamette Iron Bridge Co. vs. Hatch (1888) involved construction of an act of the Oregon Legislature permitting the building of a bridge on Willamette River, Oregon. It was charged that the bridge obstructed *navigation* and that it was contrary to the act of Congress admitting the State of Oregon into the Union, wherein it was provided that all navigable waters of the state should be common highways, etc. Opinion by Mr. Justice Bradley:

"The power of Congress to pass laws for the regulation of the navigation of public rivers, and to prevent any and all obstructions therein, is not questioned. But until it does pass some such law, there is no common law of the United States, which prohibits obstructions and nuisances in navigable rivers, unless it be the mairtime law, administered by the courts of admiralty and maritime jurisdiction. * * * Such obstructions and nuisances are offenses against the laws of the states within which the navigable waters lie, and may be in-

dicted or prohibited as such; but they are not offenses against United States laws which do not exist; and none such exist except what are to be found on the statute book. * * * This is the result of so many cases, and expressions of opinion by this court, that it is almost superfluous to cite authorities on the subject. * * *

The usual case, of course, is that in which the acts complained of are clearly supported by a state statute; but that really makes no difference. Whether they are conformable or not conformable to the state law relied on is a state question, not a federal one."

Of the provision in the Oregon enabling act, claimed to vest authority in Congress, he said:

"The clause in question had its origin in the 4th article of the compact contained in the ordinance of the old Congress for the government of the territory northwest of the Ohio, adopted July 13, 1787; * * *

This court has held that when any new state was admitted into the Union from the Northwest Territory, the ordinance in question ceased to have any operative force in limiting its powers of legislation as compared with those possessed by the original states. On the admission of any such new state, it at once became entitled to and possessed all the rights of dominion and sovereignty which belonged to them. See the cases of *Pollard vs. Hagan* (*supra*); *Per-moli vs. First Municipality of N. O.*, 44 U. S. 3 How. 589; *Escanaba Co. vs. Chicago*;

Cardwell vs. American Bridge Co.; Huse vs. Glover (supra).

In admitting some of the new states, however, the clause in question has been inserted in the law, as it was in the case of Oregon, whether the state was carved out of the territory northwest of the Ohio, or not; and it has been supposed that in this new form of enactment, it might be regarded as a regulation of commerce, which Congress has the right to impose.

* * * * *

It is obvious that if the clause in question does prohibit physical obstructions and impediments in navigable waters, the State Legislature itself, in a state where the clause is in force, would not have the power to cause or authorize such obstructions to be made without the consent of Congress. But it is well settled that the legislatures of such states do have the same power to authorize the erection of bridges, dams, etc., in and upon the navigable waters wholly within their limits, as have the original states in reference to which no such clause exists. It was so held in *Pound vs. Turck*, 95 U. S. 459, in reference to a dam in the Chippewa River in Wisconsin, in *Cardwell vs. American Bridge Co.*, 113 U. S. 205, in reference to a bridge without a draw, erected on the American River in California, which prevented steamboats from going above it; and in *Hamilton vs. Vicksburg, S. & P. R. Co.*, 119 U. S. 280, relating to railroad bridges in Louisiana; in all which cases the clause in question was in force in the

states where they arose, and in none of them was said clause held to restrain in any degree the full power of the state to make, or cause to be made, the erections referred to, which must have been more or less obstructions and impediments to the navigation of the streams on which they were placed.”

Willamette Iron Bridge Co. vs. Hatch,
125 U. S. 1, 12.

We may here pause to suggest, that even had Congress insisted on the insertion of a clause in the enabling acts of each of the new states, surrendering full jurisdiction to the United States over all streams within the domain of each new state, such a clause would have been inoperative for the reasons assigned in the cases last reviewed.

Control by the states over game is in many respects similar to control over the waters within their domain and we digress for the moment to quote from a more recent decision of this court applying the same reasoning to game as this court applied to waters in the foregoing cases.

Ward vs. Race Horse (1896) involved question of right of Wyoming after admission as a state to control the killing of game within her borders notwithstanding prior treaty with Bannock Indians permitting hunting on government lands. Opinion by Mr. Justice White:

“The power of the state to control and regulate the taking of game cannot be questioned. *Geer vs. Conn.* 161 U. S. 519.”

While discussing the Indian treaty of 1868 and the law of Wyoming passed subsequent to its admission to the Union:

“To suppose that the words of the treaty intended to give to the Indian the right to enter into already established states and seek out every portion of unoccupied government land and there exercise the right of hunting, in violation of the municipal law, would be to presume that the treaty was so drawn as to frustrate the very object it had in view. It would also render necessary the assumption that Congress, whilst preparing the way, by the treaty, for new settlements and new states, yet created a provision not only detrimental to their future well-being, but also irreconcilably in conflict with the powers of the states already existing.”

And further:

“The act which admitted Wyoming into the Union, as we have said, expressly declared that that state should have all the powers of the other states of the Union, and made no reservation whatever in favor of the Indians. * * * But the language of the act admitting Wyoming into the Union, which recognized her co-equal rights, was merely declaratory of the general rule.”

Of the power of the states to regulate the killing of game within their borders, even on unoccupied government land:

“The power of all states to regulate the killing of game within their borders will not be gainsaid, yet, if the treaty applies to the unoccupied land of the United States in the State of Wyoming, that state would be bereft of such power, since every isolated piece of land belonging to the United States

as a private owner, so long as it continued to be unoccupied land, would be exempt in this regard from the authority of the state. Wyoming, then, will have been admitted into the Union, not as an equal member, but as one shorn of a legislative power vested in all the others states of the Union, a power resulting from the fact of statehood and incident to its plenary existence. * * *

The enabling act declares that the State of Wyoming is admitted on equal terms with other states, and this declaration, which is simply an expression of the general rule, which presupposes that states, when admitted into the Union, are endowed with powers and attributes equal in scope to those enjoyed by the states already admitted, repels any presumption that in this particular case Congress intended to admit the State of Wyoming with diminished governmental authority."

Ward vs. Race Horse, 163 U. S. 504,
507, 509, 511, 514.

No reservation of control over waters (other than those already cited concerning navigation) appear in any of the enabling acts admitting the new states to the Union. All specifically declare that the new states are admitted in all respects equal with the original thirteen states so that neither the United States nor any other state may lay claim to any waters within the borders of any new state, but even had such a reservation been attempted it would be inoperative, if for no other reason, as in violation of that provision of the Constitution guaranteeing equality of the new states with the old, in all respects.

Manchester vs. Massachusetts (1891) involved

the right of Massachusetts to control *fisheries* within Buzzard's Bay lying wholly within the territory of that state. Opinion by Mr. Justice Blatchford, wherein he affirms the right of Massachusetts to control the waters of the bay in her sovereign capacity, is in part as follows:

“By the definitive Treaty of Peace of September 3, 1783, between the United States and Great Britain (8 Stat. 81), His Britannic Majesty acknowledged the United States, of which Massachusetts Bay was one, to be free, sovereign and independent States, and declared that he treated them as such, and, for himself, his heirs and successors, relinquished all claims to the government, propriety and territorial rights of the same and every part thereof. *Therefore, if Massachusetts had continued to be an independent nation, her boundaries on the sea, as defined by her statutes, would unquestionably be acknowledged by all foreign nations, and her right to control the fisheries within those boundaries would be conceded.*” (Italics ours.)

He then speaks of the limits within which by international law Massachusetts is entitled to claim jurisdiction, and continued:

“We think it must be regarded as established that, as between nations, * * * included in this territorial jurisdiction is the right of control over fisheries, whether the fish be migratory, free-swimming fish, or free-moving fish, or fish attached to or imbedded in the soil.”

He then quotes with approval from McCready

vs. Virginia, *supra*, that the states own all tide waters within their jurisdiction, the fish in them and the soil beneath them and further quotes as follows from *Smith vs. Maryland*, 59 U. S. 18 How. 71, 74:

“ ‘Whatever soil below low-water mark is the subject of exclusive propriety and ownership belongs to the state on whose maritime border and within whose territory it lies, subject to any lawful grants of that soil by the state, or the sovereign power which governed its territory before the declaration of independence. *Pollard vs. Hagan*, 44 U. S. 3 How. 212; *Martin vs. Waddell*, 41 U. S. 16 Pet. 367; *Den vs. Jersey Co.* 56 U. S. 15 How. 462. But this soil is held by the state, not only subject to, but in some sense in trust for, the enjoyment of certain public rights, among which is the common liberty of taking fish, as well shell fish as floating fish.’ ”

It having been urged that the Massachusetts act was unconstitutional:

“ *In United States vs. Bevens*, Marshall Ch. J., said: ‘The jurisdiction of a state is co-extensive with its territory; co-extensive with its legislative power. The place described is unquestionably within the original territory of Massachusetts. It is then within the jurisdiction of Massachusetts, unless that jurisdiction has been ceded to the United States.’ If the place where the offense charged in this case was committed is within the general jurisdiction of Massachusetts, then, according to the principles declared in *Smith vs. Maryland*, the statute

in question is not repugnant to the constitution and laws of the United States.”

The extent of the territorial jurisdiction of Massachusetts is thus defined:

“The extent of the territorial jurisdiction of Massachusetts over the sea adjacent to its coast is that of an independent nation; and, except so far as any right of control over this territory has been granted to the United States, this control remains with the state.”

Manchester vs. Massachusetts, 139 U. S.
240, 35 U. S. Sup. Ct. Rep. 159, 164,
165, 166.

The leading case of *Hardin vs. Jordan* (1891) involved interpretation of *riparian rights* to lands underlying a small lake in Cook County, Illinois, and whether or not the title of the riparian owner on such lake extended to the center of the lake or the water's edge. Mr. Justice Bradley in an exhaustive opinion reviewed the law as already announced in the foregoing cases and in part said:

“Such being the form of the title granted by the United States to the plaintiff's ancestor, the question is as to the effect of that title in reference to the lake and the bed of the lake in front of the lands actually described in the grant. This question must be decided by some rule of law, and no rule of law can be resorted to for the purpose except the local law of the State of Illinois. If the boundary of the land granted had been a fresh-water river, there can be no doubt that the effect of the grant would have been

such as is given to such grants by the law of the state, extending either to the margin or center of the stream, according to the rules of that law.”

After treating of the effect of meander line surveys and having stated: “It has never been held that the lands under water, in front of such grants, are reserved to the United States or that they can afterwards be granted out to other persons, to the injury of the original grantees,” Justice Bradley continued:

“With regard to grants of the government for lands bordering on tide water, it has been distinctly settled that they only extend to high-water mark, and that the title to the shore and lands under water in front of lands so granted enures to the state within which they are situated, if a state has been organized and established there. Such title to the shore and lands under water is regarded as incidental to the sovereignty of the state—a portion of the royalties belonging thereto and held in trust for the public purposes of navigation and fishery—and cannot be retained or granted out to individuals by the United States. *Pollard vs. Hagan*, 3 How. 212; *Goodtitle vs. Kibbe*, 9 How. 471; *Weber vs. Harbor Commissioners*, 18 Wall. 57. Such title being in the state, the lands are subject to state regulation and control, under the condition, however, of not interfering with the regulations which may be made by Congress with regard to public navigation and commerce. The state may even dispose of the usufruct of such lands,

as is frequently done by leasing oyster beds in them and granting fisheries in particular localities; also, by the reclamation of submerged flats, and the erection of wharves and piers and other adventitious aids of commerce. Sometimes large areas so reclaimed are occupied by cities, and are put to other public or private uses, state control and ownership therein being supreme, subject only to the paramount authority of Congress in making regulations of commerce, and in subjecting the lands to the necessities and uses of commerce. See *Manchester vs. Massachusetts*, 139 U. S. 240; *Smith vs. Maryland*, 18 How. 71; *McCready vs. Virginia*, 94 U. S. 391; *Martin vs. Waddell*, 16 Pet. 367; *Den vs. Jersey Co.*, 15 How. 426.

This right of the states to regulate and control the shores of tide waters, and the land under them, is the same as that which is exercised by the Crown of England. * * * But it depends on the law of each state to what waters and to what extent this prerogative of the state over the lands under water shall be exercised. In the case of *Barney vs. Keokuk*, 94 U. S. 324, we held that it is for the several states themselves to determine this question, and that if they choose to resign to the riparian proprietor rights which properly belong to them, in their sovereign capacity, it is not for others to raise objections."

The Court then reviews the different rules of interpretation of riparian rights obtaining in Iowa

on the one hand and Illinois and Mississippi on the other, and reviews the law of Illinois and authorities from England, Scotland, New York, Massachusetts, New Jersey, Michigan and other states and nations, in their departure or lack of departure from the English common law rules of riparian rights, and the rules adopted by each of the several states in their sovereign jurisdiction of regulation of waters within the borders, as governed and controlled by the local conditions.

The dissenting opinion by Mr. Justice Brewer and Justices Gray and Brown was based entirely upon the interpretation of local laws, but the dissenting justices concurred in the underlying principle that the local law of Illinois must govern, using the following language:

“Beyond all dispute the settled law of this court, established by repeated decisions, is that the question how far the title of a riparian owner extends is one of local law. For a determination of that question the *statutes of the state and the decisions of its highest court furnished the best and the final authority*. In the case of *St. Louis vs. Rutz*, decided at the present term, 138 U. S. 226, 242, it was said by Mr. Justice Blatchford, speaking for the court: ‘The question as to whether the fee of the plaintiff, as a riparian proprietor on the Mississippi River, extends to the middle thread of the stream, or only to the water’s edge, is a question in regard to a rule of property, which is governed by the local law of Illinois, *Barney vs. Keokuk*, 94 U. S. 324, 338; *St. Louis vs. Myers*, 113 U. S. 566; *Packer vs. Bird*, 137

U. S. 661. In *Barney vs. Keokuk*, it is said that if the states 'choose to resign to the riparian proprietor rights which properly belong to them in their sovereign capacity, it is not for others to raise objection.' The cases referred to in this quotation affirm the same doctrine."

Mr. Justice Bradley then concludes as follows:

"Believing that the law of Illinois has been determined by its Supreme Court, we think that determination is conclusive on this court. * * * The long judicial experience of those judges and their familiarity with the laws of Illinois give to these opinions great weight."

Hardin vs. Jordan, 140 U. S. 371, 380-2, 384, 402, 405.

Kaukauna Water Power Co. vs. Green Bay & Miss. Canal Co. (1891) involved the use of water for power on Fox River, Wisconsin. Opinion by Mr. Justice Brown. After stating that the rights of riparian proprietors have been determined by the courts of Wisconsin, it is said:

"With respect to such rights, we have held that the law of the state, as declared by its Supreme Court, is controlling as a rule of property."

By an act of the legislature of 1848, authorizing the construction of the dam in question, it had been enacted that:

"When a water power shall be created by reason of any dam erected * * * such power shall belong to the state, subject to future action of the legislature."

The validity of the act was questioned. Upon this subject the Court said:

“The improvement of the navigation of a river is a public purpose, and the sequestration or appropriation of land or other property, therefore, for such purpose is doubtless a proper exercise of the authority of the state under its power of eminent domain.

* * * * *

But if, in the erection of a public dam for a recognized public purpose, there is necessarily produced a surplus of water, which may properly be used for manufacturing purposes, there is no sound reason why the state may not retain to itself the power of controlling or disposing of such water as an incident of its right to make such improvements.”

Kaukauna Water Power Co. vs. Green
Bay & Miss. Canal Co. 142 U. S.
254.

The leading case of *Shively vs. Bowlby* (1894) involved title to lands below the high water mark in Astoria, Oregon. The exhaustive opinion of Mr. Justice Gray reviews the law of England and the United States from the earliest times to the date of the decision, including many of the cases already cited in this brief. Like the case of *Kansas vs. Colorado*, *infra*, a synopsis of the opinion is inadequate.

In part the Court said, quoting from *Martin vs. Waddell*, *supra*:

“ ‘When the Revolution took place, the people of each state became themselves sov-

ereign; and in that character hold the absolute right to all their navigable waters, and the soils under them, for their own common use, subject only to the rights since surrendered by the Constitution to the general government.' " (p. 16.)

Of the rights of riparian owners in the several colonies:

"But the nature and degree of such rights and privileges differed in the different colonies, and in some were created by statute, while in others they rested upon usage only." (p. 18.)

Then follows an exhaustive review of the decisions of the courts of the original states. He quotes with approval, in part as follows from *Stevens vs. Patterson & Newark Ry.* 5 Vroom (34 N. J. Law) 532, 549:

" 'That all navigable waters within the territorial limits of the state, and the soil under such waters, belong in actual propriety to the public, that the riparian owner, by the common law, has no peculiar rights in this public domain as incidents of his estate; and that the privileges he possessed by the local custom or by force of the wharf act to acquire such rights, can, before a possession has been taken, be regulated or revoked at the will of the legislature.' " (p. 22).

From *Bailey vs. Philadelphia, Wilmington & Baltimore R. R.*, 4 Harrison (Del.) 389, 395:

“ ‘All navigable rivers within the state belong to the state, not merely in right of eminent domain, but in actual propriety.’ ”
(p. 23)

The review of the decisions of the courts of the original thirteen states is then concluded as follows:

“The foregoing summary of the laws of the original thirteen states shows that there is no universal and uniform law upon the subject; but that each state has dealt with the lands under the tide waters within its borders according to its own views of justice and policy, reserving its own control over such lands, or granting rights therein to individuals or corporations, whether owners of the adjoining upland or not, as it is considered for the best interests of the public. Great caution, therefore, is necessary in applying precedents in one state to cases arising in another.” (p. 26.)

Of the new states:

“The new states admitted into the Union since the adoption of the Constitution have the same rights as the original states in the tide waters, and in the lands below the high water mark, within their respective jurisdictions.” (p. 26.)

He then quotes with approval from *Pollard vs. Hagan, supra*:

“ ‘Alabama is therefore entitled to the sovereignty and jurisdiction over all the territory within her limits, subject to the common law to the same extent that Georgia possessed it before she ceded it to the United

States. To maintain any other doctrine is to deny that Alabama has been admitted into the Union on an equal footing with the original states, the Constitution, laws and compact to the contrary notwithstanding.' 'Then to Alabama belong the navigable waters, and soils under them in controversy in this case, subject to the rights surrendered by the Constitution to the United States.' " (pp. 27-28.)

The following discussion had been predicated upon the various acts of cession of Virginia and Georgia, but it is then said :

"That these decisions do not, as contended by the learned counsel for the plaintiff in error, rest solely upon the terms of the deed of cession from the State of Georgia to the United States, clearly appears from the constant recognition of the same doctrine as applicable to California, which was acquired from Mexico by the treaty of Guadalupe Hidalgo of 1848." (p. 28.)

Quoting from *Knight vs. U. S. Land Association*, 142 U. S. 183:

" 'It is the settled rule of law in this court that absolute property in, and dominion and sovereignty over, the soils under the tide waters in the original states were reserved to the several states; and that the new states since admitted have the same rights, sovereignty and jurisdiction in that behalf, as the original states possess within their respective borders. Upon the acqui-

tion of the territory from Mexico, the United States acquired the title to tide lands, equally with the title to upland; but with respect to the former they held it only in trust for the future states that might be erected out of such territory.' ” (p. 30.)

From *Withers vs. Buckley*, 20 How. 84, he quoted from the opinion of Mr. Justice Daniel, as follows:

“ ‘It cannot be imputed to Congress that they ever designed to forbid, or to withhold from the state of Mississippi, the power of improving the interior of that state, by means either of roads or canals, or by regulating the rivers within its territorial limits, although a plan of improvement to be adopted might embrace or affect the course or the flow of rivers situated within the interior of the state. Could such an intention be ascribed to Congress, the right to enforce it may be confidently denied. Clearly, Congress could exact of the new state the surrender of no attribute inherent in her character as a sovereign independent state, or indispensable to her equality with her sister states, necessarily implied and guaranteed by the very nature of the Federal compact. Obviously, and it may be said primarily, among the incidents of that equality is the right to make improvements in the rivers, watercourses and highways, situated within the state.’ ” (p. 34.)

From *St. Clair vs. Lovington*, 23 Wall 46:

“ ‘By the American Revolution, the people of each state, in their sovereign char-

acter, acquired the absolute right to all their navigable waters and the soil under them. The shores of navigable waters and the soil under them were not granted by the Constitution to the United States, but were reserved to the states respectively. And new states have the same rights of sovereignty and jurisdiction over this subject as the original ones.' ” (p. 36.)

Of the policy of the United States in disposing of public lands:

“And the territories acquired by Congress, whether by deed of cession from the original states, or by treaty with a foreign country, are held with the object, as soon as their population and condition justify it, of being admitted into the Union as states, upon an equal footing with the original states in all respects; and the title and dominion of the tide waters and the lands under them are held by the United States for the benefit of the whole people, and, as this court has often said, in cases above cited, ‘in trust for the future states.’ * * *

The Congress of the United States, in disposing of the public lands, has constantly acted upon the theory that those lands, whether in the interior or upon the coast, above high water mark, may be taken up by actual occupants, in order to encourage the settlement of the country; but that the *navigable waters*, and the soils under them, whether within or above the ebb and flow of the tide, shall be and remain public highways; and, being chiefly valuable for the pub-

lic purposes of commerce, navigation and fishery, and for the improvements necessary to secure and promote those purposes, shall not be granted away during the period of territorial government; but, unless in case of some international duty or public exigency, shall be held by the United States in trust for the future states, and shall vest in the several states, when organized and admitted into the Union, with all the powers and prerogatives appertaining to the older states in regard to such waters and soils within their respective jurisdictions; in short, shall not be disposed of piecemeal to individuals as private property, but shall be held as a whole for the purpose of being ultimately administered and dealt with for the public benefit by the state, after it shall have become a completely organized community.” (pp. 49-50.)

In conclusion:

“At common law, the title and dominion in lands flowed by the tide were in the King for the benefit of the nation. Upon the settlement of the Colonies, like rights passed to the grantees in the royal charters, in trust for the communities to be established. Upon the American Revolution, these rights, charged with a like trust, were vested in the original states within their respective borders, subject to the rights surrendered by the Constitution to the United States.

Upon the acquisition of a territory by the United States, whether by cession from

one of the states, or by treaty with a foreign country, or by discovery and settlement, the same title and dominion passed to the United States for the benefit of the whole people, and in trust for the several states to be ultimately created out of the territory.

The new states admitted into the Union since the adoption of the Constitution have the same rights as the original states in the tide waters, and in the lands under them, within their respective jurisdictions. The title and rights of riparian or littoral proprietors in the soil below high water mark, therefore, are governed by the laws of the several states, subject to the rights granted to the United States by the Constitution.

The United States, while they hold the country as a territory, having all the powers both of national and municipal government, may grant, for appropriate purposes, titles or rights in the soil below high water mark of tide waters. But they have never done so by general laws; and, unless in some case of international duty or public exigency, have acted upon the policy, as most in accordance with the interest of the people and with the object for which the territories were acquired, of leaving the administration and disposition of the sovereign rights in navigable waters, and in the soil under them, to the control of the states, respectively, when organized and admitted into the Union.

Grants by Congress of portions of the public lands within a territory to settlers thereon, though bordering on or bounded by navigable waters, convey, of their own force, no title or right below high water mark, and do not impair the title and dominion of the future state when created; but leave the question of the use of the shores by the owners of uplands to the sovereign control of each state, subject only to the rights vested by the Constitution in the United States." (pp. 57-8.)

Shively vs. Bowlby, 152 U. S. 1.

Grand Rapids & Indiana R. R. Co. vs. Butler (1895) involved title of riparian owners of Grand River, Michigan, a meandered stream, to islands in the channel. Quoting with approval from *Middleton vs. Pritchard*, 3 Scammon 510, 520, and *Hardin vs. Jordan*, *supra*:

" 'The United States have not repealed the common law as to the interpretation of their own grants, nor explained what interpretation or limitation should be given to or imposed upon the terms of the ordinary conveyances which they use, except in a few special instances; but these are left to the principles of law, and rules adopted by each local government, where the land may lie. We have adopted the common law, and must, therefore, apply its principles to the interpretation of their grant.' "

Further he said:

" *Hardin vs. Jordan* was a case from Illinois, and the question was to the effect of the

title granted by the United States along a small lake, in respect of the bed of the lake in front of the land actually described in the grant, and we said (p. 380): 'The question must be decided by some rule of law, and no rule of law can be resorted to for the purpose except the local law of the State of Illinois. If the boundary of the land granted had been a fresh-water river, there can be no doubt that the effect of the grant would have been such as is given to such grants by the law of the state, extending either to the margin or center of the stream, according to the rules of that law.' "

Grand Rapids & Indiana R. R. Co. vs.
Butler, 159 U. S. 87, 93.

Lake Shore & Michigan Southern Ry. Co. vs. Ohio (1897), proceedings by *quo warranto* ordering the removal of a bridge across Ashtabula River, Ohio. The case came before this court on jurisdiction of Ohio or its courts to control the subject matter of the controversy on the theory that a federal and not a state question was presented by reason of act of Congress, Sept. 19, 1890 (26 Stat. 426,453), fixing national regulation of construction of bridges over rivers involving *interstate navigation*. Opinion by Mr. Justice White:

"The contention is that the statute in question manifests the purpose of Congress to deprive the several states of all authority to control and regulate any and every structure over all navigable streams, although they be wholly situated within their territory. That full power resides in the states

as to the erection of bridges and other works in navigable streams wholly within their jurisdiction, in the absence of the exercise by Congress of authority to the contrary, is conclusively determined. *Wilson vs. Blackbird Creek Co.*, 2 Pet. 245; *Withers vs. Buckley*, 20 How. 84; *Cardwell vs. American Bridge Co.*, 113 U. S. 205; *Willamette Bridge Co. vs. Hatch*, 125 U. S. 1; *Shively vs. Bowlby*, 152 U. S. 1, 33, and authorities there cited. Indeed, the argument at bar does not assail the rule settled by the foregoing cases, but asserts that as the power which it recognizes as existing in the states is predicated solely upon the failure of Congress to exert its paramount authority, therefore the rule no longer obtains, since the act of 1890, relied on, substantially amounts to an express assumption by Congress of entire control over all and every navigable stream, whether or not situated wholly within a state."

The Court then discusses the act of 1890 and holds that the purpose of the federal statute was not to deprive the states of all power over navigable streams wholly within their borders but that the federal act simply created an "additional and accumulative remedy to prevent such structures, although lawfully authorized, from interfering with commerce."

Lake Shore & Michigan Southern Ry.
vs. Ohio, 165 U. S. 365, 366, 369.

St. Anthony Falls Water Power Co. vs. St. Paul Water Commissioners (1897) involved damages for alleged injuries to the owners of a certain power

plant on the Mississippi River, who claimed right to use of *all the water* that would naturally flow past their land in the Mississippi River, under charter granted by Minnesota, and as riparian land owners. Opinion by Mr. Justice Peckham:

“In regard to the first proposition, we are of opinion that the property rights of the plaintiff in error, as riparian owners, are to be measured by the rules and decisions of the state courts of Minnesota. This principle, we think has been announced and adhered to by this court from its very early days, and no distinction has been made between the rights of the original states and those which were subsequently admitted to the Union under the provisions of the Federal Constitution. The provisions of the act of Congress, already cited (act of February 26, 1857, C. 60, Sec. 2, 11 Stat. 166), making the Mississippi River a common highway for the inhabitants of the state and all other citizens of the United States, do not impair the title and jurisdiction of the state over the navigable waters within her boundaries more than rights of that nature are limited with regard to the original states. This has been uniformly held, and is so stated in many of the cases hereinafter cited where similar language has been used in the acts admitting states into the Union.” (p. 358.)

The cases of *Martin vs. Waddell*, *supra*; *Pollard vs. Hagan*, *supra*; *Goodtitle vs. Kibbe*, 9 How. 471; *Barney vs. Keokuk*, *supra*; *St. Louis vs. Myers*,

supra; *Packer vs. Bird*, 137 U. S. 661; *Hardin vs. Jordan*, *supra*; *St. Louis vs. Rutz*, 138 U. S. 226, 242; *Kaukauna Water Power Co. vs. Green Bay & Mississippi Canal Co.*, *supra*; and *Shively vs. Bowlby*, *supra*; are then reviewed with approval. Of these cases, and particularly the last mentioned, Mr. Justice Peckham then said:

“The opinion refers to all the cases which we have above recited and many others, upon the various questions which are discussed in the case, and recognizes the rule that it belongs to the states to decide as to the character and extent of the riparian rights of owners upon navigable waters within the states.

* * * The dispute has generally been as to the extent and character of the title as between the United States or the state and the riparian owner to lands under water, and as to the right of the riparian owner to build out from the shore piers or wharves so as to reach the navigable portion of the stream; but the principles laid down in all of these cases necessarily include the right of the state courts to decide, as a matter of local law, the point now under discussion, subject to the acknowledged jurisdiction of the United States under the Constitution in regard to commerce and the navigation of the waters of rivers. The jurisdiction of the state over this question of riparian ownership has been always, and from the foundation of the government, recognized and admitted by this court. The extent of the plaintiff's

riparian right of property was therefore the subject of adjudication by the state court, and the rule has been definitely stated by that court in its judgment, which is now under review." (pp. 365-66.)

Of the claim by the Power Company to the uninterrupted flow of *all* the waters of the Mississippi would naturally pass its plant, free from interference by diversion for municipal purposes subsequent in time to construction of the power plant, it is said:

"They were grants of power to the respective companies, under which they were licensed to build their dams out into the river for the purposes of utilizing the power, and of using the water that flowed down the river. These grants were in legal effect subject at all times to the paramount right of the state as trustee for the public to divert a portion of the waters for public uses, and they were also subject to the rights in regard to navigation and commerce existing in the general government under the Constitution of the United States. * * * But there is nothing in the language of the charters showing or implying that it was the intention of the state to grant to these parties the rights now claimed by them. It is difficult to believe that a legislature would ever grant to individuals or companies rights of that nature, even if it be assumed it had the power. It was proper and in accordance with a wise public policy to grant a privilege to these companies to build dams, etc., as

stated in the charters, and to permit them, by virtue of the dams and sluices, to use the water that in fact and from time to time might come down the river, but it cannot be supposed that the legislature meant by any grant of this kind to warrant that for all future time no part of the water that might otherwise naturally flow down the river should ever be used under the authority of the state for any public purpose, without compensating the plaintiffs for that diversion." (pp. 372-3.)

St. Anthony Falls Water Power Co. vs.
St. Paul Water Commissioners,
168 U. S. 349, 358, 372.

United States Freehold Land and Emigration Co. vs. Diego Gallegos, et al. (1898), (No. 2545, U. S. Circuit Court, District of Colorado), involved the question of whether the doctrine of *riparian rights* or the doctrine of *appropriation* prevails on the Culebra river, in Colorado, all of which stream and its tributaries are located upon the Sangre de Cristo Mexican Land Grant. Opinion by Judge Riner of Cheyenne, Wyoming:

"The demurrer presents the question whether the plaintiff can claim the right to use the water of the Culebra River as riparian proprietor, the river having its source and flowing its entire length through the land of the plaintiff. There is no allegation in the bill that the plaintiff has ever applied any of this water to a beneficial use, and no claim is made based upon its right as a prior appropriator. Its claim is made upon the sole ground that the stream has its

source and flows its entire length through the lands of the plaintiff, and that the grant, the treaty and the act of Congress secure to it the rights of a riparian owner.

Without discussing the question at length, I am inclined to the view that the riparian rights of such a riparian proprietor do not differ in any respect from those held by any other riparian proprietor who derives his title immediately, or mediately, from the United States, and *that the power to prescribe the rules which define and regulate the water rights of private riparian proprietors upon unnavigable streams belongs exclusively to the legislature of the state.* (Italics ours.)

Colorado was admitted into the Union upon an equal footing with the original states. Whatever the limitation upon her powers as a government may have been, while in a territorial condition, it ceased to have any operative force, except as voluntarily adopted by her after she became a state of the Union. On her admission she at once became entitled to and possessed of all the rights of dominion and sovereignty which belonged to the original states."

Of limitations of title through Mexican grant:

"The treaty with Mexico, while it secured to private owners the title and ownership of the tracts of land which had been granted them by Mexico, did not attempt to provide that this ownership should be governed by rules of law different from those

which govern and control all private ownership of lands within the territorial jurisdiction of the United States or of any particular state. And the source of the plaintiff's title can, I think, make no difference as to the rights of property which accompany and flow from its ownership.

The constitution of the State of Colorado provides that 'the water of every natural stream, not heretofore appropriated, within the State of Colorado, is hereby declared to be the property of the public, and the same is dedicated to the use of the people of the state, subject to appropriation as hereinafter provided.' It further provides that 'the right to divert unappropriated waters of any natural stream for beneficial uses shall never be denied,' and that priority of appropriation shall give the better as between those using the water for the same purpose. (Art. 16, Sec. 5-6.)

It was early held in Colorado that the common law doctrine as to the riparian rights by which the riparian proprietor is entitled to the flow of water in its natural channel upon and over his lands, whether he makes any beneficial use of it or not, is inapplicable to Colorado (*Coffin vs. Left Hand Ditch Company*, 6 Colo. 447). This doctrine is sustained in most, if not all, of the states (except California) within what is known as the arid region.

The common law doctrine relating to the rights of a riparian proprietor in the water of a natural stream, and the use

thereof, is unsuited to our requirements and necessities and never did obtain in this region of country. A different principle, viz., that the right to use water for beneficial purposes depends upon a prior appropriation, is much better adapted to the material conditions existing in this and adjoining states. * * * That the state has the power to regulate the use of water within its boundaries I have no doubt. And to the legislature of the state the authority is most properly confided, to authorize the use of water and to impose such regulations and limitations upon its use as will best reconcile and accommodate the interests of all concerned."

United States Freehold Land & Emigration Co. vs. Diego Gallegos, 1 Legal Adviser (Mills Pub. Co., Denver), 412.

(Note: The above opinion is particularly interesting in view of the fact that it was written by a Wyoming judge sitting for a Colorado court and determining the right of Colorado to control the waters of her streams, prior to the decisions of this Court, which we hereafter cite, which affirm the rules so announced by Judge Riner.)

In *United States vs. Rio Grande Dam & Irrigation Co.* (1899), this court reviewed decisions of the Supreme Court of the Territory of New Mexico in an action brought by the United States to restrain the defendant from constructing a dam for irrigation across the Rio Grande River in the territory in obstruction of navigation. The Territorial courts de-

cided adversely to the contention of the United States. Opinion by Mr. Justice Brewer.

After discussing the question of the navigability of the Rio Grande River in New Mexico, of the right to appropriate the greater portion of the flow of the Rio Grande at the dam, said:

“The unquestioned rule of the common law was that every riparian owner was entitled to the continued natural flow of the stream.” (Quoting 3 Kent Com. Sec. 439.)

“While this is undoubted, and the rule obtains in those states in the Union which have simply adopted the common law, it is also true *that as to every stream within its dominion a state may change this common law rule and permit the appropriation of the flowing waters for such purposes as it deems wise*. Whether this power to change the common law rule and permit any specific and separate appropriation of the waters of a stream belongs also to the legislature of a territory, we do not deem it necessary for the purposes of this case to inquire. We concede *arguendo* that it does.

Although this power of changing the common law rule as to streams within its dominion belongs to each state, yet *two limitations* must be recognized:

First, that in the absence of specific authority from Congress a state cannot by its legislation destroy the right of the United States, as the owner of lands bordering on a stream, to the continued flow of its waters; so far at least as may be necessary

for the beneficial uses of the government property. Second, that it is limited by the superior power of the general government to secure the uninterrupted navigability of all navigable streams within the limits of the United States. In other words, the jurisdiction of the general government over interstate commerce and its natural highways vests in that government the right to take all needed measures to preserve the country even against any state action. * * *

Notwithstanding the unquestioned rule of the common law in reference to the right of a lower riparian proprietor to insist upon the continuous flow of the stream as it was, and although there has been in all the western states an adoption or recognition of the common law, it was early developed in their history that the mining industry in certain states, the reclamation of arid lands in others, compelled a departure from the common law rule, and justified an appropriation of flowing waters both for mining purposes and for the reclamation of arid lands, and there has come to be recognized in those states, by custom and by state legislation, a different rule—a rule which permits, under certain circumstances, the appropriation of the waters of a flowing stream for other than domestic purposes.”

After quoting from the Acts of Congress of July 26, 1866; March 3, 1877 and March 3, 1891 (which we shall hereafter quote at length), wherein the rights of the states to control their waters are recognized and confirmed, he concluded:

“Obviously by these acts, so far as they extended, *Congress recognized and assented to the appropriation of water in contravention of the common law rule as to continuous flow.* * * * This legislation must be interpreted in the light of existing facts—that all through this mining region in the West were streams, not navigable, whose waters could safely be appropriated for mining and agricultural industries, without serious interference with the navigability of the rivers into which those waters flow. *And, in reference to all these cases of purely local interest the obvious purpose of Congress was to give its assent, so far as the public lands were concerned, to any system, although in contravention to the common law rule, which permitted the appropriation of those waters for legitimate industries.*” (Italics ours.)

The remainder of the opinion, construing the act of 1890 concerning navigation, and the paramount rights of the United States to control interference with navigation, we shall quote in a later portion of this brief.

United States vs. Rio Grande Dam & Irrigation Co., 174 U. S. 690, 702-6.

Gutierrez vs. Albuquerque Land & Irrigation Co. (1903) involved the validity of certain statutes in the territory of New Mexico concerning construction of irrigation works. Two contentions were urged, first, that the territorial act was invalid because it assumed to dispose of property of the United States without its consent; and, second, that the territorial act was inconsistent with the legislation of Congress and therefore void. We shall later have occasion

to quote at greater length from the opinion of Mr. Justice White. In part he said:

“The argument in support of the first proposition proceeds upon the hypothesis that the waters affected by the statute are public waters, the property, not of the territory or of private individuals, but of the United States; that by the statute private individuals, or corporations, for their mere pecuniary profit, are permitted to acquire the unappropriated portion of such public waters, in violation of the right of the United States to control and dispose of its own property wheresoever situated. Assuming that the appellants are entitled to urge the objection referred to, we think, in view of the legislation of Congress on the subject of the appropriation of water on the public domain, particularly referred to in the opinion of this court in *United States vs. Rio Grande Dam & Irrigation Co.*, 174 U. S. 704-706, the objection is devoid of merit.”

After quoting from the various acts of Congress to which we shall refer, he continued:

“That the purpose of Congress was to recognize as well the legislation of a territory as of a state with respect to the regulation of the use of public waters, is evidenced by the act of March 3, 1891 (26 Stat. at L. 1095, Chap. 561, U. S. Comp. Stat. 1901, p. 1570).”

Gutierrez vs. Albuquerque L. & I. Co.
188 U. S. 545, 552, 553.

Clark vs. Nash (1904) reviewed a decision of the Supreme Court of Utah affirming a judgment of condemnation for right of way in favor of an individual land-owner across his neighbor's land for enlargement of an irrigation ditch. Objection was raised on the ground that the proposed use of the enlarged ditch by a private land-owner was not a public use, even though the statute permitted it. Opinion by Mr. Justice Peckham:

“In some states, probably in most of them, the proposition contended for by the plaintiffs in error would be sound. But whether a statute of a state permitting condemnation by an individual for the purpose of obtaining water for his land or for mining should be held to be a condemnation for a public use, and, therefore, a valid enactment, may depend upon a number of considerations relating to the situation of the state and its possibilities for land cultivation, or the successful prosecution of its mining or other industries. Where the use is asserted to be public, and the right of the individual to condemn land for the purpose of exercising such use is founded upon or is the result of some peculiar condition of the soil or climate, or other peculiarity of the state, where the right of condemnation is asserted under a state statute, we are always, where it can be fairly be done, strongly inclined to hold with the state courts, when they uphold a state statute providing for such condemnation. * * * Those facts must be general, notorious, and acknowledged in the state, and the state courts

may be assumed to be exceptionally familiar with them. They are not the subject of judicial investigation as to their existence, but the local courts know and appreciate them. They understand the situation which led to the demand for the enactment of the statute, and they also appreciate the results upon the growth and prosperity of the state which, in all probability, would flow from a denial of its validity. * * * With all these the local courts must be presumed to be more or less familiar.

'This court has stated that what is a public use may frequently and largely depend upon the facts surrounding the subject, and we have said that the people of a state, as also its courts, must, in the nature of things, be more familiar with such facts, and with the necessity and occasion for the irrigation of the lands, than can any one who is a stranger to the soil of the state, and that such knowledge and familiarity must have their due weight with the state courts. *Fallbrook Irrig. District vs. Bradley*, 164 U. S. 112, 159.'

After concluding that the use of water for irrigation under the state of facts presented was a "public use," the necessity of the adoption of the rule of appropriation for local administration of water rights in the Western states is thus affirmed:

"The rights of a riparian owner in and to the use of the water flowing by his land are not the same in the arid and mountainous states of the West that they are in the states of the East. These rights have been

altered by many of the Western states by their constitutions and laws, because of the totally different circumstances in which their inhabitants are placed, from those that exist in the states of the East, and such alterations have been made for the very purpose of thereby contributing to the growth and prosperity of those states, arising from mining and the cultivation of an otherwise valueless soil, by means of irrigation. This court must recognize the difference of climate and soil, which render necessary these different laws in the states so situated."

Clark vs. Nash, 198 U. S. 361, 367-9, 370.

Manigault vs. Springs, (1905) involved the damming and obstructing of navigation on Kinloch Creek, South Carolina, and the impairment of a stipulation between two riparian owners at the mouth of the Creek. Opinion by Mr. Justice Brown:

"As an original proposition we have repeatedly held that, in the absence of legislation by Congress, a state has power to improve its lands and promote the general health by authorizing a dam to be built across its interior streams, though they were previously navigable to the sea by vessels engaged in the coastwise trade."

After quoting with approval from *Willson vs. Blackbird Creek Marsh Co.*, *Pound vs. Turck*, *Es-canaba Co. vs. Chicago*, *Cardwell vs. Bridge Co.*, *Willamette Iron Bridge Co. Hatch*, and other cases, *supra*, he continued:

"While all of these cases turned upon the power of the state to authorize the cree-

tion of bridges, *the same principle* applies where the legislature deems it necessary to the public welfare to make *other improvements* for the reclamation of swampy and overflowed lands, though certain individual proprietors may thereby be subjected to expense."

Two of the defendants and another joint riparian owners at the mouth of the creek, entered into a contract in 1898 compromising certain differences relative to a former damming of the creek. In 1903 the General Assembly passed an act deciding the necessity of draining the lowlands in that vicinity and authority was given the defendants to erect and maintain a dam across the creek. To the argument that the act of 1903 impaired the contract between the riparian owners of 1898 the court said:

"It is the settled law of this court that the interdiction of statutes impairing the obligation of contracts does not prevent the state from exercising such powers as are vested in it for the promotion of the common weal, or are necessary for the general good of the public, though contracts previously entered into between individuals may thereby be affected. This power, which in its various ramifications is known as the police power, is an exercise of the sovereign right of the Government to protect the lives, health, morals, comfort and general welfare of the people, and is paramount to any rights under contracts between individuals.

* * * * *

While this power is subject to limitations in certain cases, there is wide discre-

tion on the part of the legislature in determining what is and what is not necessary—a discretion ordinarily will not interfere with.

* * * * *

It only remains to consider in connection with this branch of the case, whether the act of the General Assembly of 1903 was a proper exercise of the police power of the state. Of this we have no doubt. Although it was not an exercise of that power in its ordinarily accepted sense of protecting the health, lives and morals of the community, it is defensible in its broader meaning of providing for the general welfare of the people, by the reclamation of swampy, overflowed and infertile lands, and the erection of dams, levees and dikes for that purpose. We have often held that private interests are subservient to that right, except where property is taken for which compensation must be paid, and must give way to any general scheme for the reclamation or improvement of such lands."

The Court then concluded the discussion of this phase of the case, as follows:

"We are of the opinion that the state had full power, in the absence of legislation by congress, to authorize the construction of this dam for the avowed purposes of this act."

Manigault vs. Springs, 199 U. S. 473,
478-9, 480-1, 483.

(Note: By the foregoing, riparian rights are

treated as inferior to the paramount sovereign right of the state.)

Whitaker vs. McBride (1905) involved title of riparian land owners along the Platte river in Nebraska, a meandered stream, to an island in the stream. Opinion by Mr. Justice Brewer:

“It is the settled rule that the question of the title of a riparian owner is one of local law. In *Hardin vs. Jordan*, 140 U. S. 371, the matter was discussed at some length, the authorities cited, and the conclusion thus stated by Mr. Justice Bradley, delivering the opinion of the court (p. 384):

‘In our judgment the grants of the Government for lands bounded on streams and other waters, without any reservation or restriction of terms, are to be construed as to their effect according to the law of the state in which the lands lie.’ ”

Whitaker vs. McBride, 197 U. S. 510,
511-12.

We have omitted references to the following cases which we shall consider in another portion of this brief:

Missouri vs. Illinois, (1901) 180 U. S.
208;

Missouri vs. Illinois, (1906) 200 U. S.
496;

Kansas vs. Colorado, (1902) 185 U. S.
125; and

In re Withdrawal of Public Lands,
(1903) 32 L. D. 254

Bacon vs. Walker, (1907) involved the construction of a state statute prohibiting the grazing of

sheep on the public domain in Idaho. In the opinion by Mr. Justice McKenna the right of the state to frame its laws and shape its policies to suit its conditions was thus confirmed:

“The laws and policy of a state may be framed and shaped to suit its conditions of climate and soil. Illustrations of this power are afforded by recent decisions of this court. In *Clark vs. Nash*, 198 U. S. 361, a use of property was declared to be public which, independent of the conditions existing in the state, might otherwise have been considered as private. See also in *Strickley vs. Highland Boy Gold Min. Co.*, 200 U. S. 527. In the first case there was a recognition of the power of the state to deal with and accommodate its laws to the conditions of an arid country and the necessity of irrigation to its development. The second was the recognition of the power of the state to work out from the conditions existing in a mining region the largest welfare of its inhabitants. And again, in *Offield vs. New York N. H. & H. R. R. Co.*, 203 U. S. 372, the principle of those cases was affirmed and applied to conditions entirely dissimilar.”

Bacon vs. Walker, 204 U. S. 311-315.

Kansas vs. Colorado, (1907) involved a determination of the respective rights of the United States, the State of Kansas and the State of Colorado, to the use of the waters of the Arkansas river rising in Colorado and flowing into Kansas. We shall quote at considerable length from the opinion by Mr. Justice Brewer in a subsequent portion of this brief dealing with the rules for interstate

streams and for the present shall make brief reference to that portion relating to state control of waters:

“While arid lands are to be found mainly, if not only, in the Western and newer states, yet the powers of the national government within the limits of those states are the same (no greater and no less) than those within the limits of the original thirteen; and it would be strange if, in the absence of a definite grant of power, the national government could enter the territory of the states along the Atlantic and legislate in respect to improving, by irrigation or otherwise, the lands within their borders.”

After discussing the claims to national control he concludes:

“But it is useless to pursue the inquiry further in this direction. It is enough for the purposes of this case that each state has full jurisdiction over the lands within its borders, including the beds of streams and other waters.” (Citing many of the decisions of this court already quoted in this brief).

Mr. Justice Brewer then quotes with approval from *Barney vs. Keokuk* and *Hardin vs. Jordan supra*, to the effect that the states in their inherent sovereignty have full jurisdiction over the waters within their borders, save that jurisdiction conferred upon Congress to regulate public navigation, and says:

“It may determine for itself whether the common law in respect to riparian rights or that doctrine which obtains in the arid regions of the West of the appropriations of waters for the puproses of irrigation shall control. Congress cannot enforce either rule upon any state. * * * *

In the argument on the demurrer counsel for plaintiff endeavored to show that Congress had expressly imposed the common law on all this territory prior to its formation into states. * * * But when the states of Kansas and Colorado were admitted into the Union they were admitted with the full powers of local sovereignty which belonged to other states (*Pollard vs. Hagan* and *Shively vs. Bowlby*, *supra*; *Hardin vs. Shedd*, 190 U. S. 508, 519) and Colorado by its legislation, has recognized the right of appropriating the flowing waters to the purposes of irrigation.”

Kansas vs. Colorado, 206 U. S. 46, 92, 93, 94, 95.

Georgia vs. Tennessee Copper Co. (1907) involved injunction to prevent continued damage to the domain of Georgia. It is decisive of the greater right of the sovereign state to protect her domain irrespective of the private property rights of citizens. We shall quote more at length elsewhere. Mr. Justice Holmes in part said:

“This is a suit by a state for an injury to it in its capacity of quasi-sovereign. In that capacity the state has an interest independent of and behind the titles of its citi-

zens, in all the earth and air within its domain. It has the last word as to whether its mountains shall be stripped of their forests and its inhabitants shall breathe pure air.

Some peculiarities necessarily mark a suit of this kind. If the state has a case at all, it is somewhat more certainly entitled to specific relief than a private party might be. It is not lightly to be required to give up quasi-sovereign rights for pay, and apart from the difficulty of valuing such rights in money, if that be its choice it may insist that an infraction of them shall be stopped. The states, by entering the Union, did not sink to the position of private owners, subject to one system of private law. This court has not quite the same freedom to balance the harm that will be done by an injunction against that of which the plaintiff complains, that it would have in deciding between two subjects of a single political power."

Georgia vs. Tennessee Copper Co., 206
U. S. 230, 237-8.

In *Hudson Water Co. vs. McCarter* (1908) this Court reviewed the decisions of the Court of Errors and Appeals of New Jersey. The opinion by Mr. Justice Holmes clearly defines the sovereign rights of the state in the control of waters within its borders and also the line of demarcation between the private rights of riparian owners and the greater rights of the state:

"The courts below assumed or decided and we shall assume that the defendant represents the rights of a riparian proprietor,

and on the other hand, that it represents no special chartered powers, that give it greater rights than those. On these assumptions the Court of Errors and Appeals pointed out that a riparian proprietor has no right to divert waters for more than a reasonable distance from the body of the stream or for other than the well-known ordinary uses, and that for any purpose anywhere he is narrowly limited in amount. It went on to infer that his only right in the body of the stream is to have the flow continue, and that there is a residuum of public ownership in the state."

After further discussion of the facts:

"But we prefer to put the authority which cannot be denied to the state upon a broader ground than that which was emphasized below, since in our opinion it is independent of the more or less attenuated residuum of title that the state may be said to possess. * * * * *

It sometimes is difficult to fix boundary stones between the private right of property the police power when, as in the case at bar, we know of few decisions that are very much in point. But it is recognized that the State as *quasi-sovereign* and representative of the interests of the public has a standing in court to protect the atmosphere, the *water* and the forests within its territory, irrespective of the assent or dissent of the private owners of the land most immediately concerned. *Kansas vs. Colorado*, 185 U. S. 125, 141, 142; *S. C.*, 206 U. S. 46, 99; *Georgia*

vs. Tennessee Copper Co., 206 U. S. 230, 238. What it may protect by suit in this court from interference in the name of property outside of the state's jurisdiction, one would think that it could protect by statute from interference in the same name within. On the principle of public interest and the police power and not merely as the inheritor of a royal prerogative, the State may make laws for the preservation of game, which seems a stronger case. *Geer vs. Connecticut*, 161 U. S. 519, 534.

The problems of irrigation have no place here. Leaving them on one side, it appears to us that few public interests are more obvious, indisputable and independent of particular theory than the interest of the public of a State to maintain the rivers that are wholly within it substantially undiminished, except by such drafts upon them as the guardian of the public welfare may permit for the purpose of turning them to a more perfect use. This public interest is omnipresent wherever there is a State, and grows more pressing as population grows. It is fundamental, and we are of opinion that the private property of riparian proprietors cannot be supposed to have deeper roots. Whether it be said that such an interest justifies the cutting down by statute without compensation, in the exercise of the police power of what otherwise would be private rights of property, or that apart from statute those rights do not go to the height of what the defendant seeks to do, the result is the same. But we agree with the New

Jersey courts, and think it quite beyond any rational view of riparian rights than an agreement, of no matter what private owners, could sanction the diversion of an important stream outside the boundaries of the state in which it flows. The private right to appropriate is subject not only to the rights of lower owners but to the initial limitation that it may not substantially diminish one of the great foundations of public welfare and health.

We are of opinion, further, that the constitutional power of the state to insist that its natural advantages shall remain unimpaired by its citizens is not dependent upon any nice estimate of the extent of present use or speculation as to future needs. The legal conception of the necessary is apt to be confined to somewhat rudimentary wants, and there are benefits from a great river that might escape a lawyer's view. But the state is not required to submit even to an aesthetic analysis. Any analysis may be inadequate. It finds itself in possession of what all admit to be a great public good, and what it has it may keep and give no one a reason for its will."

Of the defense under the Fourteenth Amendment, respecting the contractual rights between the riparian owners and New York parties, he said:

"The defense under the Fourteenth Amendment is disposed of by what we have said. That under Article 1, Sec. 10, needs but a few words more. One whose rights,

such as they are, are subject to state restriction, cannot remove them from the power of the state by making a contract about them. The contract will carry with it the infirmity of the subject matter. *Knoxville Water Co. v. Knoxville*, 189 U. S. 434, 438; *Manigault v. Springs*, 199 U. S. 473, 480. But the contract, the execution of which is sought to be prevented here, was illegal when it was made.”

Hudson Water Co. v. McCarter, 209 U. S. 349, 354-7.

While in the above opinion Mr. Justice Holmes observes, “The problems of irrigation have no place here” it would seem that the decision, involving as it did the rights of riparian proprietors as against a sovereign state would apply with equal effect to the rights of individual appropriators as against the state, as stated by the late Mr. Kinney :

“It is stated by Mr. Justice Holmes in rendering the opinion of the Court that ‘the problems of irrigation have no place here,’ the principles laid down in the case apply as much to cases where the diversion and use is made for the purpose of irrigation as for culinary and domestic purposes of a great city, as was the fact in the case at bar. * * *

There is no principle of law, as far as we are able to distinguish, why the same principles as laid down in the above case should not equally apply to a case where the diversion and use of the water was made for the purpose of the irrigation of land as well

as to a case where they were for municipal purposes.”

Kinney on Irrigation and Water Rights
2nd Ed. Vol. 3, Page 2224.

See also Walbridge vs. Robinson, 22 Idaho 240, (*infra*) where the Court arrives at the same conclusion expressed by Mr. Kinney.

The decisions of the New Jersey Courts, reviewed by this Court in the above case are of value, not only as regards the limitations of private riparian rights, but as well of the paramount right of the state to control for its own benefit the natural resources of its territory irrespective of the wishes or contracts of the particular class of citizens (riparian owners) whom it had permitted to acquire usufructuary rights in its streams. To these we shall next refer.

McCarter v. Hudson County Water Co. (1905), Court of Chancery of New Jersey, involved taking of waters of Passaic River, in New Jersey to New York for the use of citizens of the latter state under a prohibitory statute of New Jersey. Opinion by Vice-Chancellor Bergen.

After stating the facts of the case wherein certain contracts have been made with a New Jersey Company to enlarge its mains and conduct water to New York and wherein it is said “that some of these contracts were prior and others subsequent to the approval of the legislative act, which defendant insists makes unlawful the threatened acts of the defendant” and “that the defendant had incurred large expense in laying mains and doing other necessary work to enable it to take the water through to New York State previous to the adoption of the statute now under consideration,” the Vice-Chancellor said:

“The question is thus presented, can the defendant * * * divert from the Passaic river, free from any control or regulation by the state, whatever quantity it may desire of the fresh water running therein and carry it to another state, the consent of parties in interest other than the state being assumed?

As absolution from control or regulation means the right to withdraw, against the protest of the state, every drop of water from the river, a right which can only be sustained upon the ground of ownership, * * * if the contention of the defendant expresses the law, persons and corporations may, by acquiring the private rights in any running stream, obtain such an ownership in the water passing down the stream as to permit its total withdrawal and transportation to a foreign jurisdiction, leaving the citizens of this state entirely destitute of a natural and necessary element of life, so far as the same may be derived from streams supplied from the running surplus or overflow of water from lakes, ponds, springs and other natural sources of potable water.

If the public have any common rights in or to the running waters of our rivers and streams at any point during its flow to the sea, such a right is manifestly held by the state in trust for the public * * * and the fact that it has not heretofore objected is no reason why it may not now protest against a further spoliation of public property. It may lawfully permit its own citizens the

benefit of property held in trust for them,
and at the same time limit such permission
to those who have a common right therein.

* * * * *

Whether this act be valid or not, under the view I take of this question the state may rest its case upon general principles, and does not need the support of the statute under review. The state has a duty to perform in that it must protect its citizens against the assumption by individuals or corporations of any of its sovereign rights, or the conversion to private use of such common property and rights as the state is said to hold in trust for the public use, the loss of which may destroy the health and comfort of its subjects. * * * *

It is admitted that the Passaic river is the most important of the available sources of water-supply for the people of New Jersey, and that their necessity therefor is constantly increasing. This river in its natural condition carries from its source to the ebb and flow of the tide a necessary element of life, the common property of the public, subject to usufructuary use, * * * and no one has a right to divert the water for commercial purposes without the grant of the state, in the absence of which such abstraction is the conversion of public property without legislative authority. The state may grant this right, but until it does it should be held beyond the reach of private appropriation.

My opinion is that, subject to the lawful transient rights of riparian owners along the banks of running streams the waters of which finally empty into a tidal stream, there is vested in the sovereign power the right to insist upon the proper riparian user of the waters therein, in order that the common right to the use of the residue, which is not private property, may be preserved for the benefit of those to whom all common property belongs; nor would the grant of every owner of land along the stream, from its source to tidewater, affect the right of the public (for which the state is but another name), for that only can be granted which the grantor hath, which is the transitory usufructuary use, subject to which running water is *publicis juris*. As the threatened act is an invasion of a common right, in that it will result in the removal from the state of the common property, it has a right to protest against the proposed diversion, and should seek to protect the public estate."

McCarter v. Hudson County Water Co.,
70 N. J. Eq. 525, 527-8, 529, 533-4,
534-5.

McCarter vs. Hudson County Water Co. (1906), Court of Errors and Appeals, New Jersey, reviewed the decision of the Chancery Court (70 N. J. Eq. 525). Opinion by Mr. Justice Pitney, now of this Court.

After stating the facts and setting forth the provisions of the act of 1905 prohibiting the transporta-

tion of water from New Jersey to other states Mr. Justice Pitney said:

“It is important to keep it clearly in mind that if the defendant carries out the project that it has in contemplation a considerable part of the fresh and potable waters of the River Passaic will be diverted out of the river at Little Falls, and conducted thence in a continuous, artificial channel or channels to some point outside of the State of New Jersey, and will there be permitted (subject only to defendant’s control) to escape and flow forth, to the benefit of the citizens of the State of New York, and to the incidental profit of the defendant.

The questions are whether such an artificial and extra-territorial outlet can be prevented by the people of the State of New Jersey, with or without an act of the legislature, and if an act be needed for the purpose whether the act of 1905 is a constitutional piece of legislation.

It must, we think, be sufficiently obvious that the government established in this state by and for the people thereof has complete dominion (subject only to constitutional limitations) over all things within the borders of the state, including all lands and waters, and the mode of acquiring and disposing of rights of property therein. The fresh-water lakes, ponds, brooks, and rivers, and the waters flowing therein, constitute an important part of the natural advantages of this territory, upon the faith of

which its population has multiplied in numbers and increased in material and moral welfare. The regulation of the use and disposal of such waters, therefore, if it be within the powers of the state, is among the most important objects of the government."

After clearly defining the right of riparian owners in the usufructuary title to the waters of the state and the paramount right of the state to control its own natural resources, he answers the argument that the people of New York have a natural right to the waters of New Jersey, if such use can be obtained without impairing riparian owners, in part as follows:

"Stripped of all circumlocution, what is asserted is the right of the people of New York to derive an artificial water-supply from the the territory of New Jersey without the consent of the people of this state. This argument, however, is at once overthrown by reference to the established principle that one state cannot expropriate for its public purposes property within the territory of another state. * * * *

To admit that the people of the State of New York have any inherent right to gain a water supply from the lakes or streams of New Jersey by means of an artificial aqueduct constructed for the purpose is to assert that the sovereignty of New York extends to some extent and for some purposes over the soil of New Jersey. To state the proposition is to refute it. Such interstate

rights can be acquired only by interstate compact.”

In conclusion:

“In our opinion, therefore, the legislature may prohibit the abstraction from the lakes, ponds and streams of the state of waters to be used for any other purpose than to meet the lawful uses of riparian owners (saving, of course, other rights vested under grants already made), and when the legislature has forbidden its abstraction for a stated purpose not within such uses, abstraction for that purpose becomes unlawful, and may be restrained at the instance of the attorney general. * * *

The act of 1905 looks not only to the present, but to the future. It recognizes that the growth and prosperity of the state depends not alone upon the advantages that it presently affords, but upon the assurance that the like advantages, to the extent of our natural resources, properly conserved, will remain for posterity. This policy of foresight, and the desire to foreclose in advance any claim of a vested right to transport the waters of our lakes and streams beyond the borders of the state, doubtless entered into the motive of the legislature in imposing a present prohibition.”

McCarter v. Hudson County Water Co., 70
N. J. Eq. 695, 700, 701, 717, 719.

The New Jersey Act is set forth in full on pages 698-9, 70, N. J. Eq. in the opinion by Mr. Justice Pit-

ney. It is of interest to here note that California adopted the same act, made to conform to California conditions, in 1911.

See Stat. of Cal. 1911, Chap. 104, p. 271.

Also that Colorado adopted an act modeled after the New Jersey Act in 1917.

Colo. Session Laws, 1917, Chapter 151, p. 539 (quoted *infra*).

In *Walbridge v. Robinson*, 22 Idaho 240, the same doctrine is declared to apply in Idaho, and Wyoming follows the same doctrine in accordance with the opinion of its attorney general. See Bienial Report, Atty. Gen'l Wyo., 1915-16, p. 75.

Boquillas Cattle Co. vs. Curtis (1909) affirms the former decisions of this Court to the effect that each state in the exercise of its sovereign rights has exclusive control over the waters within its borders and may regulate the use of the same irrespective of the common law rules. The suit was brought to prevent the defendants from withdrawing water from the San Pedro River in Arizona by means of a dam and ditch upon the plaintiff's land. Plaintiff claimed title under a Spanish land grant to the lands lying on both sides of the river. Defendants "set up no title except that they had been the first to appropriate the water" while the plaintiff "claims as a riparian owner, and argues that as such it has a right that cannot be taken from it by simple appropriation." The decision of the Supreme Court of the Territory of Arizona dismissing the bill was brought to this Court for review. Opinion by Mr. Justice Holmes, who after discussing and following the decision of the local Court in Arizona and the ef-

fect of the patent of the United States affirming the Mexican Land Grant, said:

“But, perhaps, the main contention of the plaintiff is based on the legislation of the Territory, and especially on the Howell Code of 1864, Chap. 61, Sec. 7, as follows: ‘The common law of England, so far as it is not repugnant to, or inconsistent with the Constitution and laws of the United States, or the bill of rights or laws of this territory, is hereby adopted, and shall be the rule of decision in all the Courts of this Territory.’ We assume that this section, however it may affect the case at bar, was within the power of the legislature to enact. * * * But we agree with the territorial court that, construed with the rest of the code, it is far from meaning that patentees of a ranch on the San Pedro are to have the same rights as owners of an estate on the Thames. * * * If there were nothing more in the code, it would be going a great way to say that such a broad phrase forbade the courts to hold that the common law was adaptable and established the English rule of riparian rights only for English conditions. * * * It might be argued, with force, that an amendment, inserting the words ‘So far only as is consistent with and adapted to the natural and physical condition of the Territory, and the necessities of the people thereof,’ merely expressed what was implied before. * * But we are not left to rely upon reasonable implications and argument, for other parts of the original code are express upon the point. Therefore we need not consider

whether, in any event, the statute could be supposed to confer property rights not previously possessed and not subject to legislative change."

Mr. Justice Holmes then quotes from the laws of Arizona wherein "all streams capable of being used for the purpose of irrigation are declared to be public property, and no one shall have the right to appropriate them exclusively, except under such equitable regulations as the legislature shall provide"; that all streams of running water are public; that the owners of arid lands shall have the right to construct ditches, etc., and are given the right to condemn ways therefor; that preference is given to irrigation over other uses with exclusive right to water for agricultural purposes and that precedence is given in time of scarcity to the oldest titles, and concludes:

"There are many more details, but we have recited enough to show that the interpretation given by the Court below to the general adoption of the common law by the Howell Code, and the qualifications imposed upon it, were correct. They simply follow what has been understood to be the law for many years. *Clough v. Wing*, 2 Arizona, 371.

The right to use water is not confined to riparian proprietors. *Gutierrez v. Albuquerque Land & Irrigation Co.*, 188 U. S. 545, 556; *Coffin v. Left Hand Ditch Co.*, 6 Colorado, 443, 449, 450; *Willey v. Decker*, 73 Pac. Rep. 210, 220. Such a limitation would substitute accident for a rule based upon economic considerations, and an effort,

adequate or not, to get the greatest use from all available land.”

Boquillas Cattle Co. v. Curtis, 213 U. S. 339, 345-7.

McGilvra vs. Ross (1909) involved *riparian rights* of lands bordering on Lakes Washington and Union in the State of Washington. The principal question was whether rights below high water mark pass to the patentees as appurtenant to the uplands or whether they vested in the state upon its admission to the Union. By Article XVII of the state constitution of Washington the state asserts its ownership to the beds and shores of all navigable waters in the state up to and including the ordinary water line. Opinion by Mr. Justice McKenna.

After discussing the opinion of *Shively v. Bowlby*, *supra*, and navigability as a limitation of riparian rights, it is said:

“It is enough to say that the test of navigability of waters insisted on has had no place in American jurisprudence since the decision in the case of *The Propeller Genesee Chief vs. Fitzhugh*, 12 How. 443, and is therefore no test of riparian ownership. This is the effect of *Shively vs. Bowlby*, 152 U. S. *supra*. * * * And the term ‘navigable waters,’ as there used, meant waters which were navigable in fact. The definition was not inadvertent or unnecessary. It was that to which the reasoning conduced and which became the test of the dominion of the national and state governments over shore lands and the rights which they had or could convey. Hence this conclusion by the Court: ‘The title and

rights of riparian or littoral proprietors in the soil below high-water mark, therefore, are governed by the laws of the several States, subject to the rights granted to the United States by the Constitution.'

It was observed that the United States while it is held the country as a Territory, having all the powers of national and municipal government, might have granted for appropriate purposes rights and titles below high-water mark. See *United States v. Winans*, 198 U. S. 371; *Prosser v. Northern Pacific R. R.*, 152 U. S. 59.

But, it was said, that they had never done so by general laws, but had considered it 'as most in accordance with the interest of the people and with the object for which the Territories were acquired of leaving the administration and disposition of the sovereign rights in navigable waters, and in the soil under them, to the control of the States respectively, when organized and admitted to the Union.' This policy, it was remarked, as 'to navigable waters and the soils under them, whether within or above the ebb and flow of the tide,' has been 'constantly acted upon.' And hence it was further said: 'Grants by Congress of portions of the public lands within a Territory to settlers thereon, though bordering on or bounded by navigable waters, convey, of their own force, no title or right below high-water mark, and do not impair the title and dominion of the future state created, but leave the question of the use of the shores by the owners of uplands to the sovereign control of each state,

subject only to the rights vested by the Constitution in the United States.' The conclusion necessarily follows, as expressed by the Court, that the state may dispose of its lands under navigable waters 'free from any easement of the upland proprietor.'

Joy vs. St. Louis, 201 U. S. 332, is to the same effect. See also *Scranton v. Wheeler*, 179 U. S. 141, 190; *United States v. Mission Rock Co.*, 189 U. S. 391; *Kansas v. Colorado*, 206 U. S. 46-93. In the latter case it was said, as a deduction from many previous cases, including *Shively v. Bowlby*, 'that each state has full jurisdiction over the lands within its borders, including the beds of streams and other waters.' * * 'It properly belongs to the States by their inherent sovereignty, and the United States has wisely abstained from extending (if it could extend) its survey and grants beyond the limits of high water.' "

McGilvra v. Ross, 215 U. S. 70, 78-80.

Snyder v. Colorado Gold Dredging Co. (1910), Circuit Court of Appeals, Eighth District, involved certain placer mining claims along the Swan river in Colorado, waters for the use of which were claimed under the theory of riparian rights.

Opinion by Mr. Justice Van Devanter (then Circuit Judge):

"The common-law doctrine in respect of the rights of riparian proprietors in the waters of natural streams never has obtained in Colorado. From the earliest times in that jurisdiction the local customs, laws, and

decisions of courts have united in rejecting the doctrine and in adopting a different one which regards the waters of all natural streams as subject to appropriation and diversion for beneficial uses and treats priority of appropriation and continued beneficial use as giving the prior and superior right. *Yunker v. Nichols*, 1 Colo. 551; *Coffin v. Left Hand Ditch Co.*, 6 Colo. 443, 447; *Platte Water Co. v. Northern Colo. Irrigation Co.*, 12 Colo. 525, 531, 21 Pac. 711; *Crippen v. White*, 28 Colo. 298, 64 Pac. 184. *In so choosing between these inconsistent doctrines, Colorado acted within the limits of her authority, first as a territory and then as a state, and her choice was recognized and sanctioned by Congress, so far far as the public lands of the United States were concerned. United States v. Rio Grande Irrigation Co.*, 174 U. S. 690, 702-706; *Gutierrez vs. Albuquerque Land & Irrigation Co.*, 188 U. S. 545, 552-554; *Clark v. Nash*, 198 U. S. 361, 370; *Kansas vs. Colorado*, 206 U. S. 46, 94. *Boquillas Land & Cattle Co. v. Curtis*, 213 U. S. 339."

Of the application of local law in appropriation states:

"It needs only to be added that, by the settled rule of decision in the Supreme Court of the United States, conveyances by the United States of public lands on non-navigable streams and lakes, when it is not provided otherwise, are to be construed and have effect according to the law of the state in which the lands are situate, in so far

as the rights and incidents of riparian proprietorship are concerned. *Hardin vs. Jordan*, 140 U. S. 370, 384, 402; *Hardin vs. Shedd*, 190 U. S. 508, 519; *Whitaker vs. McBride*, 197 U. S. 510; *Harrison v. Fite*, 78 C. A. 447, 449; 148 Fed. 781, 783. Here it is not provided otherwise, either by statute or by the patent, and, as has been seen, the local law does not recognize a conveyance of the land as carrying any right to the unappropriated waters of the stream."

Snyder v. Colorado Gold Dredging Co.
181 Fed. 62, 65, 69.

In *Walbridge v. Robinson* (1912), Supreme Court of Idaho, the exclusive jurisdiction over and sovereign title to the waters of Idaho was determined. A land owner in Montana was denied the right to divert Idaho waters for the irrigation of his lands to the same degree as the State of New Jersey denied the use of its waters to New York in *Hudson County Water Co. vs. McCarter* (*supra*), although there was no prohibitive statute in Idaho similar to that of New Jersey (also that now adopted in California and Colorado). Opinion by Mr. Justice Ailshie is in part as follows:

"The state engineer, acting under authority of the state, has prosecuted this appeal. He contends that under the constitution and laws of Idaho, *the waters of the state belong to and are owned by the state*, and that the state holds the title to all the public waters in common for the benefit of all its people. In support of this contention, counsel cite Sec. 1, of Art. 15 of the constitution, which provides that 'The use

of all waters now appropriated, or that may hereafter be appropriated for sale, rental or distribution; also of all water originally appropriated for private use, but which after such appropriation has heretofore been, or may hereafter be sold, rented, or distributed, is hereby declared to be a public use, and subject to the regulation and control of the state in the manner prescribed by law' and Sec. 3240 of the Rev. Codes, which provides that, 'All the waters of the state when flowing in their natural channels, including the waters of all natural springs and lakes within the boundaries of the state, are declared to be the property of the state.' It is further contended that this latter declaration of the statute is only a written expression of what the law has always been with reference to the public waters of a state.

Freund, in his work on the Police Power of the state, at Sec. 417, seems to entertain this view, and in discussing similar statutes in other states, says: 'Such declaration is expressive of what is believed to be the law, and does not intend to make new law.'

We think it is clear that the title to the public waters of the State is vested in the State for the use and benefit of all the citizens of the State under such rules and regulations as may be prescribed from time to time by the law-making power of the State. This is not, however, an interest or title in the proprietary sense, but rather in the sovereign capacity as representative of all the

people for the purpose of guaranteeing that the common rights of all shall be equally protected and that no one shall be denied his proper use and benefit of this common necessity. The interest which an individual or the State may have in such things as water and gas and wild animals has received special consideration from courts and text-writers on account of the tendency of these things to escape beyond the power of control or possession or management of any particular person and without the volition of the one who claims to be the owner. They have, nevertheless, been classed together by most of the authorities. * * *

It will be found that the authorities quite uniformly class wild animals, fish, water, gas, light and air as things of the 'negative community,' or the property of no one, and that they are consequently *res communes* and subject to the regulation and control of the state in its sovereign capacity.
* * *

There is no doubt in our minds but that *the state* in its sovereign capacity *is the owner of the waters* flowing in the streams thereof and may exercise its authority over the same. If the foregoing propositions be correct, the state has the right to prohibit the diversion of the waters of its streams for use outside of and beyond the boundaries of the state. In other words, as said by the supreme court in *Geer vs. Connecticut, supra*, 'The common ownership imports the right to keep the property, if the sovereign so chooses, always within its jurisdiction for every purpose.' "

The court then quotes with approval from Hudson County Water Co. vs. McCarter (*supra*) and of the right of the state to prohibit diversion of its waters for lands in other states in the absence of prohibitory statutes, said:

“It is conceded in the outset that there is no express legislation to that effect. It is contended by the appellant that, in the absence of a positive statute authorizing such a thing or conferring such a right, the right does not exist, and that no presumption arises that the state by its silence intends to permit the diversion and use of its waters beyond its jurisdiction. * * *

In the light of these authorities and the fundamental reason and principle of justice on which they rest, it would seem necessary for anyone, who claims a right under the laws of a state, which right is to be exercised beyond the jurisdiction thereof, to rest such right upon some specific legislative grant or authority. In the case at bar, a right is urged to enjoy the use of state property or a natural resource of the state beyond the jurisdictional borders of the state and within the confines of another state. A gift or grant of state property or a public franchise, or a right which must emanate from the sovereignty representing the whole people, ought not to arise by mere inference or failure of the sovereignty to speak on the subject. On the other hand, a failure to speak on the subject or to confer the right in specific terms ought to be construed in favor of the state and against those claiming the right. * * * We are

clear that there is no authority for the diversion and appropriation of the waters of this state for application to a beneficial use in another state."

Walbridge vs. Robinson, 22 Idaho 236, 241-4, 245-7.

Marshall Dental Mfg. Co. vs. State of Iowa (1913) involved title to a meandered lake in Iowa. The State of Iowa was granted an injunction restraining the draining of the lake. Opinion by Mr. Justice Holmes:

"The state courts found that Goose Lake was an unnavigable body of water proper to be meandered, and we see no sufficient reason for going behind these successive findings, if we had power to do so. *Cedar Rapids Gas Light Co. vs. Cedar Rapids*, 223 U. S. 655, 668. See *French vs. Fyan*, 93 U. S. 169; *McCormick vs. Hayes*, 159 U. S. 332.

* * * * *

It is enough to say that by virtue of its sovereignty the State of Iowa has an interest in the condition of the lake sufficient to entitle it to maintain this suit against an intruder without title, whether the state owns the bed or not. This principle has been affirmed and acted on by the court so recently that it does not require further argument here. *Georgia vs. Tennessee Copper Co.*, 206 U. S. 230, 237; *Hudson Water Co. vs. McCarter*, 209 U. S. 349, 356. See also *Kansas vs. Colorado*, 206 U. S. 46, 93; *McGilvera vs. Ross*, 215 U. S. 70, 79."

Marshall Dental Co. vs. State of Iowa, 226 U. S. 460, 461-2.

Scott vs. Lattig (1913) involved the question of title to an island in Snake River, a *navigable stream* constituting the boundary between the states of Oregon and Idaho.

Mr. Justice Van Devanter in delivering the opinion of the court said:

“It was settled long ago by this court, upon a consideration of the relative rights and powers of the Federal and state governments under the Constitution, that lands underlying navigable waters within the several states belong to the respective states in virtue of their sovereignty and may be used and disposed of as they may direct, subject always to the rights of the public in such waters and to the paramount power of Congress to control their navigation so far as may be necessary for the regulation of commerce among the states and with foreign nations, and that each new state, upon its admission to the Union, becomes endowed with the same rights and powers in this regard as the older ones. *County of St. Clair vs. Lovington*, 23 Wall. 46, 68; *Barney vs. Keokuk*, 94 U. S. 324, 338; *Illinois Central Railroad Co. vs. Illinois*, 146 U. S. 387, 434-437; *Shively vs. Bowlby*, 152 U. S. 1, 48-50, 58; *McGivra vs. Ross*, 215 U. S. 70.”

Scott vs. Lattig, 227 U. S. 229, 242.

The very recent case of *United States vs. Cress*, (1917) involved recovery of compensation for taking of lands and water rights by means of back-water resulting from construction of Government works

upon the Cumberland and Kentucky rivers, Kentucky, in aid of *navigation*.

The long established rule of the authority of the states over the waters within their borders is thus expressed by Mr. Justice Pitney:

"The states have authority to establish for themselves such rules of property as they may deem expedient with respect to the streams of water within their borders, both navigable and non-navigable, and the ownership of the lands forming their beds and banks (Barney vs. Keokuk, 94 U. S. 324, 338; Packer vs. Bird, 137 U. S. 661, 671; Hardin vs. Jordan, 140 U. S. 371, 382; Shively vs. Bowlby, 152 U. S. 1, 40, 58; St. Anthony Falls Water Power Co. v. Water Comrs. 168 U. S. 349, 358); subject however, in the case of navigable streams, to the paramount authority of Congress to control the navigation so far as may be necessary for the regulation of commerce among the states and with foreign nations (Shively vs. Bowlby, 152 U. S. 1, 40; Gibson vs. United States, 166 U. S. 269, 272; Scott vs. Lattig, 227 U. S. 229, 243)."

United States vs. Cress, — U. S. —, 37 Sup. Ct. Rep. 380, 381.

We believe sufficient appears to justify the conclusions set forth in the "General Statement" at the beginning of this portion of the brief, which we now re-affirm.

We shall now consider the Acts of Congress upon this subject and the cases construing the same.

(b) ACTS OF CONGRESS AND JUDICIAL CONSTRUCTION.

In the foregoing review of the decisions of the Courts we find a unanimity of opinion, from the earliest decisions to those of the present year, upon the fundamental doctrine that each state of the United States has full sovereign jurisdiction over the waters within its borders, whether in arms of the sea, where the tide ebbs and flows, upon the great navigable rivers and lakes or upon the non-navigable streams and bodies of water, and further that this jurisdiction applies to all usufructuary titles (riparian or by appropriation) to uses for navigation (save for Congressional control), fisheries, power, domestic supply, irrigation, and other demands of the state and its citizens, according to local conditions and necessities.

We shall now review the various acts of Congress, particularly with regard to use of waters within the arid region and public land states, wherein it will be observed that the same rule of state jurisdiction over waters is recognized and affirmed both by the acts themselves and by the courts in construing the same. Of the many decisions available, we shall select but a few of those dealing particularly with the subject under consideration.

Act of July 26, 1866.

“Whenever, by priority of possession, rights to the use of water for mining, agricultural, manufacturing, or other purposes, have vested and accrued, and the same are recognized and acknowledged *by the local customs, laws, and decisions of Courts*, the possessors and owners of such vested rights shall be maintained and protected in the

same; and the right of way for the construction of ditches and canals for the purposes herein specified is acknowledged and confirmed; but whenever any person, in the construction of any ditch or canal, injures or damages the possession of any settler on the public domain, the party committing such injury shall be liable to the party injured for such injury or damage."

Act of July 9, 1870.

"All patents granted, or pre-emptions or homesteads allowed, shall be subject to *any vested and accrued water rights*, or rights to ditches and reservoirs used in connection with such water rights, as may have been acquired under or recognized by the preceding section."

Act of March 3, 1877.

The act of March 3, 1877, in relation to desert lands, contained in its first section this proviso:

"*Provided, however*, That the right to the use of water by the persons so conducting the same on or to any tract of desert land of six hundred and forty acres shall depend upon *bona fide* prior appropriation; and such right shall not exceed the amount of water actually appropriated and necessarily used for the purpose of irrigation and reclamation; and all surplus water over and above such actual appropriation and use, together with the water of all lakes, rivers and other sources of water supply upon the public lands, and not navigable, shall remain

and be held free for the appropriation and use of the public for irrigation, mining and manufacturing purposes subject to existing rights."

Act of March 3, 1891.

The act of March 3, 1891, provided:

"That the right of way through the public lands and reservations of the United States is hereby granted to any canal or ditch company formed for the purpose of irrigation and duly organized under the laws of any *State or Territory* which shall have filed, or may hereafter file, with the Secretary of the Interior a copy of its articles of incorporation, and due proofs of its organization under the same, to the extent of the ground occupied by the water of the reservoir and of the canal and its laterals, and fifty feet on each side of the marginal limits thereof; also the right to take, from the public lands adjacent to the line of the canal or ditch, material, earth and stone necessary for the construction of such canal or ditch: *Provided*, That no such right of way shall be so located as to interfere with the proper occupation by the Government of any such reservation, and all maps of location shall be subject to the approval of the department of the Government having jurisdiction of such reservation, and the privilege herein granted shall not be construed to interfere with the control of water for irrigation and other purposes under authority of the respective States or Territories."

26 Stat. L. 1095; U. S. Comp. St. 1901,
p. 1570.

Act of August 18, 1894.

The act of August 18, 1894 (The Carey Act) grants to the public land states the desert lands therein situated or so much thereof, not exceeding 1,000,000 acres, as the *state may cause to be irrigated*, reclaimed and occupied.

28 Stat. L., P. 422.

Special Act of ^{March 2}Feb. 28, 1897.

^{March 2}~~February~~ 26, 1897, Congress passed an act regarding the use of a reservoir theretofore reserved:

“Provided, That nothing in this act shall be construed to deprive the *State of Colorado* of the control of the water in any reservoir which may be constructed on this site by any person, or corporation, or association *under the regulations provided by the state laws in such cases.*”

^{29 Stat. L. 603}

Act of February 26, 1897.

The act of February 26, 1897 providing for the use and occupation or reservoir sites theretofore reserved by the United States, contained the following proviso:

“*Provided*, That the charges for water coming in whole or in part from reservoir sites used or occupied under the provisions of the Act *shall always be subject to the control and regulation of the respective states and territories* in which such reservoirs are in whole or in part situated.”

7 Fed. Stat. Ann., 1905, p. 1098.

29 Stat. L. 391.

2 U. S. Comp. Stat. 1901, p. 1556.

Act of ~~July~~^{June} 17, 1902, (National Reclamation Act).

~~July~~^{June} 17, 1902, the National Reclamation Act was passed providing for government assistance in construction or irrigation works within and under the laws of the respective public land states and territories from funds derived from the sale of public lands within the same, and in Section 8 of the act it is provided:

“That nothing in this act shall be construed as affecting or intending to affect or to in any way interfere with the laws of any State or Territory relating to the control, appropriation, use, or distribution, of water used in irrigation, or any vested right acquired thereunder, and the Secretary of the Interior, in carrying out the provisions of this act, shall proceed in conformity with such laws, and nothing herein shall in any way affect any right of any state or of the Federal Government or of any landowner, appropriator, or user of water in, to, or from any interstate stream or the waters thereof; Provided, That the right to the use of water acquired under the provisions of this act shall be appurtenant to the land irrigated, and beneficial use shall be the basis, the measure, and the limitation of the right.”

7 Fed. St. Ann., 1905. p. 1098;

Supp. U. S. Comp. St. 1905, p. 349;

32 St. L. 388.

The act of February 21, 1911, (36 Stat., 925), authorizes the government, through the Secretary of the Interior, to contract and co-operate with irrigation districts, water users' associations, corporations,

entrymen, or water users for the construction or use of such reservoirs, canals, or ditches as may be advantageously used by the government and irrigation districts, water users' associations, corporations, entrymen, or water users for empounding, delivering, and carrying water for irrigation purposes and then contains the following proviso:

“Provided, that nothing contained in this act shall be held or construed as enlarging or attempting to enlarge the right of the United States, under existing law, to control the waters of any stream in any state.”

These acts have been repeatedly construed by this Court, and particular reference is made to them in the following cases:

Atchison vs. Peterson, 20 Wall. 507.

Basey vs. Gallagher, Id. 620.

Broder vs. Natoma Water Co., 101 U. S. 274.

Jennison vs. Kirk, 98 U. S. 453, 456.

United States vs. Rio Grande Irr. Co., 174 U. S. 690, 705-6.

Gutierrez vs. Albuquerque Land & Irr. Co., 188 U. S. 545, 552-5.

Kansas vs. Colorado, 206 U. S. 46, 85, 94.

Boquillas Land & Cattle Co. vs. Curtis, 213 U. S. 339, 344-5.

Twin Falls Canal Co. vs. Foote, 192 Fed. 583.

Stanfield vs. Umatilla River Water Users Ass'n. 192 Fed. 596.

In *Atchison vs. Peterson* (1874) the use of water in the states and territories according to the local laws, customs and the decisions of their courts and the recognition thereof by Congress in the act of 1866 is thus stated by Mr. Justice Field:

“As respects the use of water for mining purposes, the doctrines of the common law declaratory of the rights of riparian owners were, at an early day, after the discovery of gold, found to be inapplicable or applicable only in a very limited extent to the necessities of miners and inadequate to their protection. By the common law the riparian owner on a stream not navigable, takes the land to the centre of the stream, and such owner has the right to the use of the water flowing over the land as an incident to his estate. And as all such owners on the same stream have an equality of right to the use of the water, as it naturally flows, in quality, and without diminution in quantity, except so far as such diminution may be created by a reasonable use of the water for certain domestic, agricultural, or manufacturing purposes, there could not be, according to the law, any such diversion or use of the water by one owner as would work material detriment to any other owner below him. * * *

This equality of right among all the proprietors on the same stream would have been incompatible with any extended diversion of the water by one proprietor, and its conveyance for mining purposes to the points from which it could not be restored to the stream. But the government being

the sole proprietor of all the public lands, whether bordering on streams or otherwise, there was no occasion for the application of the common-law doctrine of riparian proprietorship with respect to the waters of those streams. The government, by its silent acquiescence, assented to the general occupation of the public lands for mining, and, to encourage their free and unlimited use for that purpose, reserved such lands as were mineral from sale and the acquisition of title by settlement. And he who first connects his own labor with property thus situated and open to general exploration, does, in natural justice, acquire a better right to its use and enjoyment than others who have not given such labor. So the miners on the public lands throughout the Pacific States and Territories by their customs, usages, and regulations everywhere recognized the inherent justice of this principle; and the principle itself was at an early period recognized by legislation and enforced by the courts in those States and Territories. * * *

This doctrine of right by prior appropriation, was recognized by the legislation of Congress in 1866."

Atchison vs. Peterson, 20 Wall. 507, 511-13.

In *Basey vs. Gallagher* (1874) the rights of the western states and territories to control waters within their borders, for irrigation as affirmed by the act of 1866, is thus stated by Mr. Justice Field:

“In the late case of *Atchison vs. Peterson*, we had occasion to consider the respective rights of miners to running waters. * * * No distinction is made in those States and Territories by the custom of miners or settlers, or by the courts, in the rights of the first appropriator from the use made of the water, if the use be a beneficial one. * * *

Ever since that decision it has been held generally throughout the Pacific States and Territories that the right to water by prior appropriation for any beneficial purpose is entitled to protection. Water is diverted to propel machinery in flour-mills and saw-mills, and to irrigate land for cultivation, as well as to enable miners to work their mining claims; and in all such cases the right of the first appropriator, exercised within reasonable limits, is respected and enforced. * * * The act of Congress of 1866 recognizes the right to water by prior appropriation for agricultural and manufacturing purposes, as well as for mining. * * *

It is very evident that Congress intended, although the language used is not happy, to recognize as valid the customary law with respect to the use of water which had grown up among the occupants of the public land under the peculiar necessities of their condition; and that *law may be shown by evidence of the local customs, or by the legislation of the State or Territory, or the decisions of the courts.*”

Basey vs. Gallagher, 20 Wall. 670, 681-4.

We pause to note that Colorado was admitted to the Union August 1, 1876, and that at that time only the acts of 1866 and 1870 had been enacted by Congress. These acts and the decisions of the courts construing the same, alone affected the lands in Colorado during its territorial period and all subsequent acts must necessarily refer to lands in Colorado as a state of the Union in all respects equal with the original thirteen states and not as a territory.

In *Jennison vs. Kirk* (1878) the effect of the act of 1866 is thus stated by Mr. Justice Field:

“In other words, the United States by the section said, that whenever rights to the use of water by priority of possession had become vested, and *were recognized by the local customs, laws, and decisions of the courts*, the owners and possessors should be protected in them; and that the right of way for ditches and canals incident to such water-rights, being recognized in the same manner, should be ‘acknowledged and confirmed;’ but where ditches subsequently constructed injured by their construction the possessions of others on the public domain, the owners of such ditches should be liable for the injuries sustained.”

Jennison vs. Kirk, 98 U. S. 453, 460.

In *United States vs. Rio Grande Dam and Irrigation Co.* (1899) the acts of 1866, 1877 and 1891 are construed and the language in *Broder vs. Natoma Water Co.*, 101 U. S. 274, quoted with approval. The case involved a conflict between the control by the United States (act of 1890, etc.) of the Rio Grande river for navigation and the use of the water thereof for irrigation by the Territory of New Mexico, through one of its corporations.

The case was remanded for further proceedings on the question of navigability. The opinion of Mr. Justice Brewer construing the rights of states and territories to control the waters within their borders, subject to the paramount rights of the United States, is in part as follows:

“The unquestioned rule of the common law was that every riparian owner was entitled to the continued natural flow of the stream.”

He then quotes from 3 Kent. Com., Sec. 439, and proceeds:

“While this is undoubted, and the rule obtains in those states in the Union which have simply adopted the common law, it is also true *that as to every stream within its dominion a state may change this common law rule and permit the appropriation of the flowing waters for such purposes as it deems wise.* Whether this power to change the common law rule and permit any specific and separate appropriation of the waters of a stream belongs to the legislature of a territory, we do not deem it necessary for the purposes of this case to inquire. We concede *arguendo* that it does.”

After speaking of the paramount rights of the United States, he continued:

“Notwithstanding the unquestioned rule of the common law in reference to the right of a lower riparian proprietor to insist upon the continuous flow of the stream as it was, and although there has been in all the Western states an adoption or recognition of

the common law, it was early developed in their history that the mining industry in certain states, the reclamation of arid lands in others, compelled a departure from the common law rule, and justified an appropriation of flowing waters both for mining purposes and for the reclamation of arid lands, and there has come to be recognized in those states, by custom and by state legislation, a different rule—a rule which permits, under certain circumstances, the appropriation of the waters of a flowing stream for other than domestic purposes. So far as those rules have only a local significance, and affect only questions between citizens of the state, nothing is presented which calls for any consideration by the Federal courts.”

Quoting the act of 1866 he said:

“The effect of this statute was to recognize, so far as the United States are concerned, the validity of the local customs, laws and decisions of courts in respect to the appropriation of water. In respect to this, in *Broder vs. Water Company*, 101 U. S. 274, 276, it was said:

‘It is the established doctrine of this court that rights of miners, who had taken possession of mines and worked and developed them, and the rights of persons who had constructed canals and ditches to be used in mining operations and for the purposes of agricultural irrigation, in the region where such artificial use of the water was an absolute necessity, are rights which the Government had, by its conduct, recog-

nized and encouraged and was bound to protect before the passage of the act of 1866. We are of opinion that the section of the act which we have quoted was rather a voluntary recognition of a pre-existing right of possession, constituting a valid claim to its continued use, than the establishment of a new one.' ”

After quoting the Acts of 1877 and 1891 he said:

“Obviously by these acts, so far as they extended, *Congress recognized and assented to the appropriation of water in contravention of the common law rule as to continuous flow.* * * * This legislation must be interpreted in the light of existing facts—that all through this mining region in the West were streams, not navigable, whose waters could safely be appropriated for mining and agricultural industries, without serious interference with the navigability of the rivers into which those waters flow. *And, in reference to all these cases of purely local interest the obvious purpose of Congress was to give its assent, so far as the public lands were concerned, to any system, although in contravention to the common law rule, which permitted the appropriation of those waters for legitimate industries.*” (Italics ours.)

Mr. Justice Brewer then observed that the state would have no right to appropriate all the waters of tributary streams to such a degree as to destroy the navigability of the upper stream and referred to the act of September 19, 1890 (26 Stat. 454, Sec. 10), regarding the government control of navigation and held that this later declaration of Congress would

control over prior statutes. After an interpretation of the power of Congress over navigable streams he concluded :

“The question always is one of fact, whether such appropriation substantially interferes with the navigable capacity within the limits where navigation is a recognized fact. In the course of the argument this suggestion was made, and it seems to us not unworthy of note, as illustrating this thought. The Hudson River runs within the limits of the State of New York. It is a navigable stream and a part of the navigable waters of the United States, so far at least as from Albany southward. One of the streams which flow into it and contributes to the volume of its waters is the Croton River, a non-navigable stream. Its waters are taken by the State of New York for domestic uses in the city of New York. *Unquestionably the State of New York has a right to appropriate its waters, and the United States may not question such appropriation, unless thereby the navigability of the Hudson be disturbed.* On the other hand, if the State of New York should, even at a place above the limits of navigability, by appropriation for any domestic purposes, diminish the volume of waters, which, flowing into the Hudson, make it a navigable stream, to such an extent as to destroy its navigability, undoubtedly the jurisdiction of the National government would arise and its power to restrain such appropriation be unquestioned; and within the purview of this section it would become the right of the Attorney General to institute proceedings to restrain such appropriation.”

The case was remanded for inquiry whether the intended acts of the defendants would substantially diminish the navigability of the Rio Grande.

United States vs. Rio Grande Dam and
Irrigation Co., 174 U. S. 690, 702-6,
709.

In *Gutierrez vs. Albuquerque Land & Irrigation Co.* (1903) the rights of certain *territorial acts* of New Mexico respecting irrigation were assailed first, upon the ground that the acts assumed to dispose of property (water) of the United States, and second, because the territorial act was inconsistent with legislation of Congress (Acts of 1866, 1877, 1891 and 1902, *supra*). Mr. Justice White thus disposed of the contentions:

“The argument in support of the first proposition proceeds upon the hypothesis that the waters affected by the statute are public waters, the property, not of the territory or of private individuals, but of the United States; that by the statute private individuals or corporations, for their mere pecuniary profit, are permitted to acquire the unappropriated portion of such public waters, in violation of the right of the United States to control and dispose of its own property wheresoever situated. Assuming that the appellants are entitled to urge the objection referred to, we think, in view of the legislation of Congress on the subject of the appropriation of water on the public domain, particularly referred to in the opinion of this court in *United States vs. Rio Grande Dam & Irrig. Co.*, 174 U. S. 704-706, the objection is devoid of merit. As

stated in the opinion just referred to, by the act of July 26, 1866 (14 Stat. at L. 253, Chap. 262, sec. 9, Rev. Stat. Sec. 2339, U. S. Comp. Stat. 1901, p. 1437), Congress recognized, as respects the public domain, 'so far as the United States are concerned, the validity of the local customs, laws, and decisions of courts in respect to the appropriation of water.' By the act of March 3, 1877, (19 Stat. at L. 377, chap. 107, U. S. Comp. Stat. 1901, p. 1549), the right to appropriate such an amount of water as might be necessarily used for the purpose of irrigation and reclamation of desert land, part of the public domain, was granted, and it was further provided that 'all surplus water over and above such actual appropriation and use, together with the water of all lakes, rivers, and other sources of water supply upon the public lands and not navigable, shall remain and be held free for the appropriation and use of the public for irrigation, mining, and manufacturing purposes, subject to existing rights.'

That the purpose of Congress was to recognize as well the legislation of a territory as of a state with respect to the regulation of the use of public waters, is evidenced by the act of March 3, 1891 (26 Stat. at L. 1095, Chap. 561; U. S. Comp. Stat. 1901, p. 1570).''

Section 18 of the act of 1891 is then quoted wherein "the right of way through all public lands and reservations of the United States is hereby granted to any ditch and canal being formed for the purpose of

irrigation and duly organized under the laws of *any state or territory*" and wherein it is provided that "the privilege herein granted shall not be construed to interfere with the control of water for irrigation and other purposes under authority of the respective *states or territories*" and of the National Reclamation Act, he said:

"It may be observed that the *purport of the previous acts is reflexively illustrated* by the act of June 17, 1902 (32 Stat. at L. 388). That act appropriated the receipts from the sale and disposal of the public lands in certain states and territories to the construction of irrigation works for the reclamation of arid lands; (Quoting Sec. 8 of the National Reclamation Act.)

It would necessarily seem to follow from the legislation referred to that the statute which we have been considering is not inconsistent with the legislation of Congress on the subject of the disposal of waters flowing over the public domain of the United States. Of course, as held in the *Rio Grande Case*, p. 703, even a state as respects streams within its borders, in the absence of specific authority from Congress, 'cannot, by its legislation, destroy the right of the United States, as the owner of lands bordering on a stream, to the continued flow of its waters; so far, at least as may be necessary for the beneficial uses of the government property; and the power of a state over navigable streams and their tributaries is further limited by the superior power of the general government to secure the uninterrupted

navigability of all navigable streams within the limits of the United States. Necessarily, these limitations are equally applicable in restraint of the legislative branch of a territorial government, controlled, as is such body, by Congress. * * *

We perceive no merit in the contention that the proviso in the desert land act of March 3, 1877, declaring that surplus water on the public domain shall remain and be held free for the appropriation and use of the public for irrigation, mining, and manufacturing purposes, subject to existing rights, is an expression of the will of Congress that all public waters within its control or the control of a legislative body of its creation must be *directly* appropriated by the owners of land upon which a beneficial use of water is to be made, and that in consequence a territorial legislature cannot lawfully empower a corporation, such as the appellee, to become an intermediary for furnishing water to irrigate the lands of third parties. As all owners of land within the service capacity of appellee's canal will possess the right to use the water which may be diverted into such canal, the use is clearly public (*Fallbrook Irrig. Dist. vs. Bradley*, 164 U. S. 163), and appellee is therefore a public agency, whose right to divert water and whose continued existence is dependent upon the application by it within a reasonable time of such diverted water to a beneficial use. Irrigation corporations generally are recognized in the legislation of Congress, and the rights conferred are not limited to

such corporations as are mere combinations of owners of irrigable land.”

Gutierrez vs. Albuquerque Land & Irrigation Co., 188 U. S. 545, 553, 554, 556.

In Re Withdrawal of Public Lands for Irrigation Purposes (1903), 32 L. D. 254, involved the construction of National Reclamation Act (32 Stat. 388). The Director of the United States Geological Survey recommended that all lands within one half mile on each side of the center line of the Salmon River, State of Washington, *together with the water flowing thereon*, be withdrawn from entry on the ground that the same was required for engineering works under the National Reclamation Act. The communication was referred to the Attorney General of the United States for opinion. September 5, 1903, Assistant Attorney General Campbell rendered opinion wherein he found that the United States had no authority or control over the waters of a stream exclusive jurisdiction of which, save for interstate navigation, was vested in the State of Washington. The opinion was adopted and thereafter followed by the U. S. Reclamation Service. (See Second Annual Report U. S. Reclamation Service, 1902-3, page 36.)

The opinion is especially pertinent in view of the fact that Assistant Attorney General Campbell appeared of counsel for the United States in the case of *Kansas vs. Colorado*. He in part said:

“The purpose to be accomplished by the withdrawal, as will be seen from the text of the letter, is to control the use of the water passing through the lands proposed to be withdrawn, so as to prevent its appropriation by others in any

manner that will impair the continuous flow of the water through said lands, in violation of the common law right of riparian proprietors. The practical question thus presented is, whether the United States, by the exercise of executive authority, has the right to control the use of unappropriated waters passing through the public lands in a state, so as to prevent their appropriation by others for any of the beneficial uses recognized and allowed by the statutes of the state.

The United States, as proprietor of the public lands through which a stream of water naturally flows, has the same property and right in the stream that any owner of land has, be it usufructuary or otherwise. The stream of water is part and parcel of the land, and the right to the use of it and to its continuous flow, without alteration or diminution, is, under the common law, a right incident to the ownership of the soil, enjoyed alike by every riparian proprietor. It is not a property in the water, but a simple usufruct as it passes along. 3 Kent's Com. Sec. 439; *Unions M. & M. Co. vs. Ferris* 2 Sawy. 176; *Vansickle vs. Haines* 7 Nev. 249; *Lux vs. Haggin* 69 Cal. 255.

Such is the cardinal rule that controls in every state of the Union which has simply adopted the common law. While this is true, 'it is also true that as to every stream within its dominion a state may change this common law rule and permit the appropriation

of the flowing waters for such purposes as it deems wise.' (United States v. Rio Grande Irrigation Co. 174 U. S. 690-702.) But, 'in the absence of specific authority from Congress, a state cannot by its legislation destroy the right of the United States, as the owner of lands bordering on a stream, to the continued flow of its waters; so far at least as may be necessary for the beneficial uses of the government property.' (Id. 703.)

In all the arid land states the common law rule as to the right of a riparian proprietor to the continued flow of a stream over his land has been changed, and rights to the use of water for manufacturing, mining, agricultural and other beneficial purposes have accrued and vested, under local customs, the laws of the states and the decisions of the Courts. The statutes of a state providing for the diversion and appropriation of the waters of a flowing stream for irrigation or other public uses is a valid exercise of the legislative power of a sovereign state. (Fallbrook Irrigation District, v. Bradley, 164 U. S. 112.)

The constitution of the State of Washington declares that 'the use of the waters of this state for irrigation, mining, and manufacturing purposes shall be deemed a public use.' The laws of the state provide that the use of such water may be acquired by appropriation, and as between appropriations the first in time shall be first in right. The right thus acquired is a property right that may be transferred by deed. Although

in that state, as in all the other states of the arid west, the common law was adopted and recognized, their peculiar physical conditions soon 'compelled a departure from the the common law rule, and justified an appropriation of flowing waters for mining purposes and for the reclamation of arid lands, and there has come to be recognized in those states, by custom and by state legislation, a different rule—a rule which prevents, under certain circumstances, the appropriation of the waters of a flowing stream for other than domestic purposes.' *United States v. Rio Grande Irrigation Co.*, *supra*, page 704.

Such legislation would, however, have had no effect upon the rights of the United States as to the public lands and the waters of the streams and lakes thereon, but for the act of July 26, 1866, (14 Stat., 253; Rev. Stat., Sec. 2339), and subsequent acts of the same character."

He then discussed the Acts of July 26, 1866 (14 Stat., 253), July 9, 1870, (16 Stat., 217), March 3, 1877 (19 Stat., 377), March 3, 1891, (26 Stat., 1095) and the local effect thereof as interpreted by this Court and continued:

"These acts evince a clear and definite purpose to authorize and assent to the appropriation of water upon the public lands in contravention of the common law rule as to continuous flow * * * ."

He then quoted, with approval, the portions of the opinion of this Court in *United States v. Rio Grande Irrigation Co.* and *Gutierrez v. Albuquerque*

Land Co., supra, and after quoting Section 8 of the National Reclamation Act, continued:

“The absolute right to appropriate the waters flowing over the public lands has been so obviously sanctioned by the acts referred to, and so clearly determined by the decisions cited, as to be no longer an open question. The Director of the Geological Survey, however, bases his recommendation for a withdrawal of land and the riparian right incident thereto upon the theory that whatever recognition and assent may have heretofore been given to the appropriation of the waters on the public lands, the United States may at any time resume the control of all unappropriated waters on such lands, and that ‘as the Secretary of the Interior has full power to withdraw from entry any unappropriated lands which, in his opinion, may be necessary for public uses, there appears to be no reason why the Secretary may not, at the same time, withdraw both the land and the water from further appropriation, when the same are required for public use.’

Whether the United States, by the legislative branch of the government, may resume its common law right of riparian proprietorship as to the unappropriated waters flowing over and upon the public domain, by the repeal of the several statutes recognizing rights in contravention thereof, is a question that need not be discussed in determining the question submitted. * * * * Those acts are still in full force and effect, and their operation can not be limited or

suspended by executive authority. Section 8 of the reclamation act is an emphatic declaration that such laws are to continue in force. It expressly declares that in carrying out the provisions of the act it shall not 'interfere with the laws of any State or Territory relating to the control, appropriation, use, or distribution of water used in irrigation, or any vested right acquired thereunder,' but that it 'shall proceed in conformity with such laws.' A withdrawal of waters from appropriation under the State and Territorial laws would be in direct conflict with the provisions of this section.

I have therefore to advise that there is no authority to make such executive withdrawal of public lands in a state as will reserve the waters of a stream flowing over the same from appropriation under the laws of the state, or will in any manner interfere with its laws relating to the control, appropriation, use or distribution of water."

In *Re Withdrawal Public Lands for Irrigation Purposes*, Act of June 17, 1902. 32 L. D. 254-8.

In *Kansas vs. Colorado* (1906) Mr. Justice Brewer, in answer to the claim of the National Reclamation Service, of control over all the streams of the Western States, in part said:

"As to those lands within the limits of the states, at least of the Western states, the national government is the most considerable owner and has power to dispose of and make all needful rules and regulations respecting its property. We do not mean

that its legislation can override state laws in respect to the general subject of reclamation. *While arid lands are to be found mainly, if not only, in the Western and newer states, yet the powers of the national government within the limits of those states are the same (no greater and no less) than those within the limits of the original thirteen*, and it would be strange if, in the absence of a definite grant of power, the national government could enter the territory of the states along the Atlantic and legislate in respect to improving, by irrigation or otherwise, the lands within their borders. Nor do we understand that hitherto Congress has acted in disregard to this limitation."

He then quoted, with approval, the language of Mr. Justice White in *Gutierrez vs. Albuquerque Land & Irrig Co.*, *supra*, page 554, construing Section 8 of the National Reclamation act (heretofore quoted), wherein he said "the purport of the previous acts" (1866, 1877 and 1891) "is reflexively illustrated by the act of June 17, 1902," and concluded:

"But it is useless to pursue the inquiry further in this direction. It is enough for the purposes of this case that each state has full jurisdiction over the lands within its borders, including the beds of streams and other waters" (citing cases).

Kansas vs. Colorado, 206 U. S. 46, 92.

Twin Falls Canal Co. vs. Foote (1911), U. S. Circuit Court of Idaho, was commenced before a state court of Idaho for adjudication of conflicting rights

of appropriators of water from Snake River, including appropriations made by the U. S. Reclamation Service by means of one of its irrigation systems diverting water from that stream. The representative in charge of the U. S. Reclamation structures filed petition to remove the case to the Circuit Court of the United States, which, having been granted, *ex parte*, the plaintiff moved to remand to the state court.

The representative in charge of the government project contended that the United States Court should take jurisdiction by reason of the fact that the Reclamation Act is a "revenue law of the United States." In the opinion remanding the action to the state court, United States District Judge Dietrich construed the reclamation act and determined that it was not a "revenue law." After a discussion of the authorities upon this question he said:

"The storage of water for irrigation purposes or the reclamation of arid lands is not, accurately speaking, a governmental function, and is not 'a necessary part of civil government in the same sense in which the protection of life, liberty and property, the defense of the government against insurrection and foreign invasion, and the administration of public justice, are.' The government, being possessed of large tracts of arid land, which without irrigation are practically worthless, in pursuance of a wise policy, as we think, is, under the reclamation act, engaged in reclaiming them, to the end that they may become marketable and ultimately fruitful.

In prosecuting such an enterprise, however, it is not primarily performing a governmental, or, strictly speaking, even a public function, but is promoting its proprietary interests. Such advantage as arises therefrom to the people at large is material and not governmental, and is only such as might indirectly accrue to the public from the reclamation of an equal amount of land through private enterprise. *Kansas vs. Colorado*, 206 U. S. 46, 92; *United States vs. Hanson*, 167, Fed. 881, 93 C. C. A.371; *United States vs. Burley* (C. C.) 172 Fed. 615, Id., 179 Fed. 1, 102 C. C. A. 429.

It will further be borne in mind that the subject-matter of this action is not, directly, at least, the right to collect dues or enforce contracts, but to use the flow of a certain stream of water. *This right of the government, such as it possesses, is of the same quality, and is derived from the same sources and rests upon the same basis as that of the plaintiff or any other claimant.* Not in its sovereign, but in its proprietary capacity, as the owner of arid lands, it *acquired such right, by complying with the laws of the state governing the appropriation and use of water for beneficial purposes.* Congress was careful to make clear its intent in this respect." (Italics ours.)

Judge Dietrich then quotes Section 8 of the Reclamation Act wherein it is provided that all appropriations of water made by the Reclamation Service shall be subject to the laws and regulations of the states or territories where made and continues:

“In acquiring the right, therefore, and using it, the Secretary of the Interior is not authorized to act independently of, but is directed to proceed in conformity with and subject to, *the laws of the state*, and there can be no implication that Congress intended that all controversies touching a right thus acquired and held under the state laws should be withdrawn from the state courts. The plaintiff is not seeking to restrain the defendant from collecting water rents or water dues, or from enforcing any contracts that have been made for the payment of money. The only substantive relief sought is the adjudication of conflicting claims to certain water, a judicial determination of the extent, and the dignity of the rights of the several parties to the flow of the Snake River. The *right* not having been conferred upon the Secretary of the Interior by the reclamation act, but *having been acquired by him through a compliance with the statutes of the state*, in adjudicating the controversy herein involved, the court exercising jurisdiction, whether it be a state or a federal tribunal, will be under the necessity of construing and applying the statutes, not of the national government, but of the state.”

In the remainder of the opinion the Court determined that the reclamation act is not a measure for raising revenue in a constitutional sense and remanded the case to the state court.

Twin Falls Canal Co. vs. Foote, 192
Fed. 583, 594.

Stanfield vs. Umatilla River Water Users' Assn. (1911), U. S. Circuit Court, Oregon, involved a motion to remand the action to the state court from which it had been removed upon motion of Director Newell of the U. S. Reclamation Service under claim that the suit was being prosecuted against an officer appointed and acting under a revenue law of the United States, and also against an officer of the United States claiming to act under a law of Congress.

The action was commenced in the state court to enjoin the reclamation project from operating their canal above the city of Stanfield until so constructed as to prevent damage by loss of water therefrom. In remanding the case to the state court, District Judge Bean found against Director Newell, and, on the claim that he was acting under a revenue law of the United States, said:

“This question has been recently considered and decided by Judge Deitrich in the District of Idaho. *Twin Falls Canal Co., Ltd., vs. Foote*, 192 Fed. 583. His conclusions are that the reclamation act is not a revenue law within the meaning of section 643, and that suit commenced in the state court against an officer of the reclamation service cannot be removed to a federal court under the provisions of that section. I had examined the question and reached a similar conclusion before being advised of Judge Deitrich's decision. I can, however, add nothing to his able and exhaustive opinion.”

Of the claim that Director Newell was an officer acting under a law of the United States he said:

“It is suggested that, regardless of the method of removal, the Court should retain jurisdiction because the suit is against an officer of the United States claiming to act under a law of Congress. But this is not sufficient to give this court jurisdiction, under the judiciary act of 1887, either as an original action or by removal from a state court. *Tennessee vs. Union & Planter’s Bank*, 152 U. S. 454; *Chappell vs. Waterworth*, 155 U. S. 102; *Walker vs. Collins*, 167 U. S. 57; *People’s U. S. Bank vs. Goodwin* (C. C.) 160 Fed. 727. Although it would seem to have been enough under previous legislation. *Feibelman vs. Packard*, 109 U. S. 421; *Bachrack vs. Norton*, 132 U. S. 337.”

Stanfield vs. Umatilla River Water Users’ Assn. et al, 192 Fed. 596, 597.

These acts of Congress and decisions of the courts and the land department, clearly declare and affirm the jurisdiction of the states over the waters within their domain in so far as the United States is concerned.

We shall now refer to the laws and decisions of the courts of the litigant states, Colorado and Wyoming, without further reference upon this topic to the numerous decisions of the courts of other states.

(c) **Colorado—Laws and Decisions.**

The Colorado enabling act and the proclamation of the President admit the state to the Union “on an equal footing with the original states in all respects whatsoever.”

18 U. S. Stat. L. 474.

President’s Proclamation, Aug. 1, 1876.

Constitutional Provisions.

The Constitution, made in pursuance of the Enabling Act, and subsequently approved by the proclamation of President Grant, provides:

“The water of every natural stream, not heretofore appropriated, within the State of Colorado, is hereby declared to be the property of the public, and the same is dedicated to use of the people of the state, subject to appropriation as hereinafter provided.” (Art. 16, Sec. 5, Colorado Constitution.)

Then follow provisions giving preference to certain uses over others, and providing for rights of way and for state regulation of charges to water consumers, from canal systems.

Art. 16, Sec. 6, 7 and 8, Colorado Constitution.

It thus appears that on her very admission and as a part of the solemn transaction, Colorado asserted her full sovereign dominion over the waters of her streams and that this assertion was then and there approved by the United States.

We shall hereafter cite statutes and decisions of her legislatures and courts wherein claim to full control of her waters is again and again asserted, finally culminating in a decision of her courts and an act of her legislature forever putting at rest any assumption of recognition of claims from without her boundaries on the principle of concurrence of laws or otherwise.

Colorado early provided for the careful policing of her streams in various divisions and water districts of her territory and provided procedure for adjudication of the rights of appropriation before her

courts upon the decrees of which the diversions of water are administered by her water officials.

Most of these statutes were enacted and the greater portion of the water of the state had been appropriated and adjudicated before Wyoming was admitted to the Union (July 10, 1890). Of these statutes it is said:

“The statutes are in the nature of police regulations to secure the orderly distribution of water for irrigation purposes, and to this end they provide a system of procedure for determining the priorities of rights as between carriers.”

Combs vs. Farmer's H. L. C. & Co.,
38 Colo. 420, 428.

Also:

“This court has repeatedly upheld the irrigation laws of this state as being an exercise of the police power of the state.”

Robertson vs. People, 40 Colo. 119, 124.

Judicial Construction of Constitution.

The foregoing provisions of the Constitution of Colorado have been many times construed by her courts, we shall however confine ourselves to limited citation:

“Our constitution dedicates all unappropriated water in the natural streams of the state ‘to the use of the people,’ the ownership thereof being vested in the ‘public.’ ”

Wheeler vs. Northern Colo. Irr. Co. 10
Colo. 582, 587.

Chief Justice Hayt said:

“Under our constitution, the water of every natural stream in this state is deemed to be the property of the public. Private ownership of water in the natural streams is not recognized. The right to divert water therefrom and apply the same to beneficial uses, is, however, expressly guaranteed. By such diversion and use a priority of right to the use of the water may be acquired. This priority has been declared a property right, and as such subject to sale and transfer.”

Ft. Morgan L. & C. Co. vs. South Platte
D. Co. 18 Colo. 1, 2.

In *Stockman vs. Leddy* (1912), construction of the above provision of the constitution came before the Supreme Court of Colorado on the question of the right of the legislature to make appropriation for protecting and defending the rights of the state and its citizens, in the waters of the natural streams of the state. The opinion by Chief Justice Campbell leaves no doubt of the meaning of the constitutional provisions and the extent of the claims of the state:

“That the general assembly, which, under our constitution, is the representative of the people in making laws, has the power, and is charged with the duty, to protect the state's interest in the natural streams of this state, cannot be questioned. * * * From the very beginning of settlement in Colorado territory, and in other arid regions of the West, irrigation has been recognized by federal and state legislation, by the decisions of the federal and state courts, and by the people directly interested, as the declared

public policy. These decisions need not be cited. They are abundant. In Section 5 of Article 16 of our state constitution as originally adopted, this public policy is thus tersely expressed: 'The water of every natural stream, not heretofore appropriated, within the State of Colorado, is hereby declared to be the property of the public, and the same is dedicated to the use of the people of the state, subject to appropriation as hereinafter provided.' Other sections of the same article make such provision. This language is both emphatic and clear. It is the voice of the people who ratified the constitution, and declares for all time the public policy of this state which theretofore had been recognized by all the departments of the dual governments. The statutes which were enacted by the early sessions of our General Assembly to carry out the provisions of this section provide an elaborate and systematic scheme for the distribution of the waters of the state to those entitled to their use.

The state has never relinquished its right of ownership and claim to the waters of our natural streams, though it has granted to its citizens, upon prescribed conditions, the right to the use of such waters for beneficial purposes and within its own boundaries. The property right, however, in the natural streams, and the waters flowing therein, has never been renounced or relinquished by the state, and it has at all times asserted not only its right of ownership, but the unrestrained right, within its

own boundaries, to distribute its waters to those who have, under its authority, acquired, by perfected appropriations, the right to their use.

This constitution of ours was ratified and adopted by the legal voters of the state in accordance with the conditions prescribed by the enabling act of Congress, and the President of the United States in his proclamation admitting Colorado into the Union found the fact to be that the fundamental conditions imposed by Congress on the State of Colorado to entitle it to such admission had been complied with. Congress, in passing the enabling act, and the President, in issuing his proclamation, were aware of the existing physical conditions and of the topography and geography of the state. The federal government, by its lawmaking and executive bodies, knew that the natural streams of this state are, in fact, non-navigable within its territorial limits, and practically all of them have their sources within its own boundaries and that no stream of any importance whose source is without those boundaries, flows into or through this state. The entire volume of these streams is therefore made up of rains and snows that fall upon the surface of lands included within the exterior lines of this state and of springs which issue from the earth within the same area. Such being the peculiar conditions, the state was justified in asserting its ownership of all the natural streams within its boundaries. When Colorado was admitted into the Union with such a consti-

tution, the federal government, through its lawmaking and executive departments, thereby recognized and confirmed such right of ownership as belonging to the state in its sovereign capacity. We therefore find it to be not only that our state constitution and pertinent statutes, but the decisions of the courts and duly announced public policy, all are in accord on the proposition to which the federal government has, as we have just shown, given its consent that the waters of the natural streams of this state belong to the people, to the state, in its sovereign capacity, and that its right to their distribution and control within its borders is free from any interference by any other sovereignty. * * * The right of Congress to regulate and control navigable interstate streams and the jurisdiction of the Supreme Court of the United States to determine, in a controversy between two or more sovereign states over the waters of an interstate stream, whether they are reasonably exercising their inherent powers of sovereignty, are not overlooked or questioned by us; but these considerations do not, for the reasons above stated, affect or bear upon the right of ownership and control by Colorado of its own natural streams, and its power and authority to regulate the distribution of their waters, within its own territory, for beneficial purposes. We find nothing in *United States vs. Rio Grande Irrigation Co.*, 174 U. S. 690, 19 Sup. Ct. 770, 43 L. Ed. 1136; *Kansas vs. Colorado*, 206 U. S. 46, 27 Sup. Ct. 655, 51 L. Ed. 956; *Rickey L.*

d C. Co. vs. Miller & Lux, 218 U. S. 258, 31 Sup. Ct. 11, 54 L. Ed. 1032; *Bean vs. Morris*, 221 U. S. 485, 31 Sup Ct. 703, 55 L. Ed. 821, or in any other case that has been brought to our attention, which militates against our conclusion, when these cases are considered, as they should be, in connection with the facts on which they were determined. We therefore conclude that the general assembly, in order to protect the rights of the state in our natural streams and their waters, and the interests which its citizens have acquired thereunder, may make a valid appropriation of money for the purpose of protecting and defending them."

Stockman vs. Leddy, 55 Col. 24, 27-30.

Statutes to Protect Rights of State.

Reference must again be had to the several acts of the Colorado Legislature, looking particularly to the extent of the claims to full jurisdiction of the state over the waters within its borders and protection thereof from interference from without. In that portion of this brief devoted to a discussion of the cases cited by Wyoming in her "Supplemental Brief," wherein Wyoming relies upon precedents for settlement of mere private rights of citizens of different states (and not upon cases dealing with the rights of states), where it is "assumed, in the absence of legislation to the contrary, that the states were willing to ignore boundaries, and allowed the same rights to be acquired from outside the state that could be acquired within," we shall there observe that Colorado has legislated "to the contrary," and that aside from the fundamental weakness of establishing rules for settlement of mere private property

interests without regard to the rights of states, the cases cited by Wyoming do not apply because of the prohibitory action of Colorado (See p. 153-178 Sup. Brief, Wyo). Nevertheless, the position taken by Colorado should be clearly defined in this portion of the discussion and we shall now refer to several of the more recent of the numerous acts of the Colorado legislature so defining her position.

Act of April 10, 1903, provided for defense of case of Kansas vs. Colorado "and for the protection of the natural streams of Colorado for irrigation, wherever threatened," and appropriated \$25,000 for such purpose.

S. L. 1903, Chap. 2, p. 23.

The carrying out of the provisions of the above act, and subsequent similar acts, terminated in 1907.

S. L. 1907, Chap. 57, p. 136.

Act of May 2, 1909, directed the Attorney General to institute and defend suits to defend the waters of the state and to determine whether or not the federal government "is encroaching upon or usurping the rights and powers of the state," etc., and appropriated \$20,000 therefor.

S. L. 1909, Chap. 83, p. 199.

Act of May 11, 1911, appointed a joint legislative committee with full powers to investigate and

"Ascertain whether or not the right of this state to control the distribution of the waters thereof within its borders is thereby in any way unlawfully limited or interfered with or infringed upon * * * and to investigate and determine what claims are made by or upon behalf of any state or corporation or individual thereof to the waters

of any stream or streams originating or flowing in the State of Colorado to the detriment of the interests of this state and the citizens thereof or the appropriators and users of said waters; and to examine into all matters by which the state's right to control the waters thereof may be affected * * * said committee is hereby empowered to authorize prosecution or defense of such action or actions as it may deem proper to determine or to protect the rights of the state."

The sum of \$50,000 was appropriated to carry out the provisions of the bill.

S. L. 1911, Ch. 227, p. 671.

Act of Feb. 25, 1913, after reciting the attacks then pending and threatened against the state and its waters appropriated \$50,000 to pay the expenses of bringing or defending suits, etc., "for protection of the right to use the water of the natural streams of Colorado."

S. L. 1913, Ch. 100, p. 381.

Act of Feb. 24, 1915, was similar and made the same appropriation as that of 1913.

S. L. 1915, Ch. 21, p. 93.

Act of April 21, 1917, made and appropriation of \$50,000 for defraying expenses of all suits "for the protection of the right to use the water of the natural streams of Colorado * * * wherever threatened," etc.

S. L. 1917, Ch. 33, p. 108.

Thus it appears that Colorado has constantly resisted all attempts to challenge or encroach upon her rights to the use, regulation and control of the

waters within her borders, constituting, as they do, her greatest natural resource, and has repeatedly appropriated her moneys, and without stint, for the protection of her sovereign rights.

By the Act of March 30, 1917, Colorado forever put at rest any possible question of the extent of her claims, if indeed any further act was required after her admission to the Union on an equality with the other states in 1876, and after the most positive declaration of state claim to the waters within her borders made in Art. XVI, Sec. 5, of her constitution above quoted. This last act of her legislature was modeled after the New Jersey Act construed in *Hudson County Water Co. vs. McCarter*, 209 U. S. 349. (See copy New Jersey Act in opinion by Mr. Justice Pitney, 70 N. J. Eq. 698), but adapted to the Colorado procedure. It reads:

An Act

To preserve and maintain the waters of the State of Colorado and to prevent the diversion, carriage and conveyance thereof into other states for use therein, and to authorize the District and Supreme Courts to enforce the provisions hereof.

Be it Enacted by the General Assembly of the State of Colorado:

Section 1. For the purpose of aiding and preserving unto the State of Colorado and all its citizens the use of all the waters of the springs, lakes, ponds, creeks, rivers, streams and water-courses of this state, which waters do not increase with the growth of population and which are neces-

sary for the health and prosperity of all the citizens of the State of Colorado, and for the growth, maintenance and general welfare of the state, it shall be unlawful for any person, corporation or association to divert, carry or transport by ditches, canals, pipes, conduits, natural streams, or water-courses, the waters of any springs, reservoir, lake, pond creek, river, stream or water-course of this state into any other state for use therein.

Section 2. It shall be the duty of the State Engineer, the Division Engineers and the Water Commissioners of this state, to see that the waters of the state are preserved for the use and benefit of the citizens and inhabitants of the state for its growth, prosperity and general welfare, and to prevent the waters thereof from being diverted, carried, conveyed or transported by ditches, canals, pipes, conduits, natural streams or water-courses, into other states for use therein, and upon its being brought to the knowledge of the State Engineer of Colorado that any person, corporation or association is carrying or transporting any of such waters into any other state for use therein, or is intending so to do, it shall be his duty to immediately call the matter to the attention of the Attorney General, who shall, in behalf of and in the name of the state, apply to any District Court or to the Supreme Court of the State of Colorado, for such restraining orders or injunctions, both preliminary and final, as may be necessary to enforce the provision of this act and jurisdiction is conferred upon said courts for such purposes.

Section 3. In the opinion of the General Assembly this act is necessary for the immediate preservation of the public peace, health and safety.

Section 4. In the opinion of the General Assembly an emergency exists, therefore this act shall be in force and take effect from and after its passage.

Approved: March 30, 1917."

S. L. 1917, Ch. 151, p. 539.

In an act permitting the sale, by an irrigation district, of its water system, the following appears:

"The sale herein provided for may be made to any person or persons, to a corporation organized under the laws of the State of Colorado, or may be made to the United States, but no sale of water rights shall in any manner impair or be deemed to relinquish any of the sovereign rights of the State of Colorado in the waters of the state or to control and regulate the diversion, use and distribution thereof."

S. L. Colo., 1917, Ch. 86, Sec. 5. p. 324.

In an Act, introduced at the instance of the Reclamation Service to permit state and government co-operation in construction of irrigation projects in Colorado, the following proviso occurs:

"But, however, all water which has been or is acquired by the district by virtue of the laws of Colorado may be distributed and apportioned according to the terms of any contract entered into between the district and the United States, until the obligation due the United States is paid or the

obligation to pay is discharged in any manner; but nothing in this act contained shall be deemed or construed to grant or relinquish unto the United States any of the sovereign rights of the State of Colorado in and to the waters within its borders, or its exclusive authority over and jurisdiction and control of said waters, and the diversion, appropriation and use thereof, nor in any manner change the methods of appropriation thereof."

S. L. 1917, Ch. 83, Sec. 3, p. 296.

We believe sufficient appears to clearly define the claims of Colorado to the waters within her borders, free from any assumption of recognition of claims of private citizens in other states. As we shall next observe, the claims of Wyoming are, in all essentials similar.

(d) Wyoming—Laws and Decisions.

Wyoming was admitted into the Union July 10, 1890, "on an equal footing with the original states in all respects whatever."

Enabling Act Wyoming—26 Stat. 224,
c 664.

Constitutional Provisions.

Her constitution, adopted before admission, made full claim to the waters within her borders in essential respects the same as had Colorado in 1876, with the addition therein of provisions for the policing of her streams by officials in manner theretofore adopted by statute in Colorado save for the creation of a Board of Control:

“Section 1. The water of all natural streams, springs, lakes or other collections of still water, within the boundaries of the state, are hereby declared to be the property of the state.

Section 2. There shall be constituted a board of control, to be composed of the state engineer and superintendent of the water divisions; which shall, under such regulations as may be prescribed by law, have the supervision of the waters of the state and of their appropriation, distribution and diversion, and of the various officers connected therewith. Its decisions to be subject to review by the courts of the state.

Section 3. Priority of appropriation for beneficial uses shall give the better right. No appropriation shall be denied except when such denial is demanded by the public interests.

Section 4. The legislature shall by law divide the state into four (4) water divisions, and provide for the appointment of superintendents thereof.

Section 5. There shall be a state engineer who * * * shall be president of the board of control, and shall have general supervision of the waters of the state and of the officers connected with its distribution * * *.”

Wyoming Constitution, Art. VIII,
Secs. 1 to 5, inclusive.

(Note: It should be observed that by her constitution no appropriation shall be denied except

when such denial is “demanded by the public interests.”)

The preference of uses one over the other is not provided in the constitution, as in Colorado, but is fixed by statute.

Statutes.

The statutes of Wyoming provide:

“A water right is a right to use the *water of the state*, when such use has been acquired by the beneficial application of water under the laws of the state relating thereto, and in conformity with the rules and regulations dependent thereon. Beneficial use shall be the basis, the measure and limit of the right to use water at all times, not exceeding in any case, the statutory limit of volume. Water being always the property of the state, rights to its use shall attach to the land for irrigation, or to such other purpose or object for which acquired in accordance with the beneficial use made and for which the right receives public recognition, under the law and the administration provided thereby. Water rights cannot be detached from the lands, place or purpose for which they are acquired, without loss of priority.”

Wyo. Comp. Stat. (1910), Sec. 724, p. 247.

Then follow statutes defining the preference of various uses, by appropriation, one over the other; provisions requiring all persons intending to appropriate water to first obtain a permit so to do and

that no right shall attach before date of permit, and provisions generally for regulation of diversions and uses of water under state control, leaving adjudication of priorities to the Board of Control, rather than to the courts. While fundamentally the system of state control by dividing the state into divisions for purposes of administration is similar to that of Colorado, nevertheless, the manner of defining the extent of the right to use of water, and the various details of administration are radically different.

Judicial Construction of Constitution.

The above provisions of the Wyoming constitution have been construed and upheld by her courts. In *Farm Inv. Co. vs. Carpenter* (1900), Chief Justice Potter said:

“At the outset, however, it is strenuously insisted that the declaration contained in the constitution that the waters of the natural streams, etc., are the property of the state, is meaningless and of no force or effect. It is argued that the state no more than an individual can acquire property by a mere assertion of ownership; and that the United States as the primary owner of the soil is also primarily possessed of title to the waters of the streams flowing across the public lands. * * *

So far as any proprietary rights of the United States are concerned, the question would seem to be settled in favor of the effectiveness of the declaration, by the act of admission, which embraces the following provision: ‘And that the constitution which the people of Wyoming have formed for

themselves, be, and the same is hereby, accepted, ratified, and confirmed.' *McCor-nick vs. Western Union Tel. Co.*, 79 Fed. 499. In that case the circuit court of appeals for the 8th circuit of the United States, held that under a similar provision in the act of Congress, admitting Utah, all the provisions of the Utah constitution were invested with all authority conferred by any act of Congress.

But is there not a further and deeper reason for upholding the validity and force of the constitutional declaration? Under the doctrine of prior appropriation, it would seem essential that the property in waters affected by that doctrine should reside in the public, rather than constitute an incident to the ownership of the adjacent lands. Such waters are, we think, generally regarded as public in character.

By the civil law, the waters of all natural streams were *publici juris*, and according to Bracton that was the rule anciently in England. * * * At the modern common law public waters are generally confined to those which are navigable, and public rights therein to navigation and fishery, and privileges incident thereto. In the arid region of this country another public use has been recognized by custom and laws and sanctioned by the courts; a public use sufficient to support the exercise of the power of eminent domain. *Fallbrook Irr. Dist. vs. Bradley*, 164 U. S. 112, 160. This use, and the doctrine supporting it, is founded upon the necessities

growing out of natural conditions, and is absolutely essential to the development of the material resources of the country. Any other rule would offer an effectual obstacle to the settlement and growth of this region, and render the lands incapable of continued successful cultivation. The waters for the reclamation of the desert lands must be obtained, in a very large measure, from the natural streams and other natural bodies of water.

The common law doctrine of riparian rights relating to the use of the water of natural streams and other natural bodies of water not prevailing, but the opposite thereof, and one inconsistent therewith, having been affirmed and asserted by custom, laws, and decisions of courts, and the rule adopted permitting the acquisition of rights by appropriation, the waters affected thereby become perforce *publici juris*. It is therefore doubtful whether an express constitutional or statutory declaration is required in the first place to render them public.* * * We entertain no doubt of the power of the people in their organic law, when existing vested rights are not unconstitutionally interfered with, to declare the waters of all natural streams, and other natural bodies of water, to be the property of the public, or of the state. Nor do we doubt that the legislature may make a like declaration, when, in that particular, unrestrained by the constitution.

If any consent of the general government was primarily requisite to the incep-

tion of the rule of prior appropriation, that consent is to be found in several enactments by Congress, beginning with the Act of July 26, 1866, and including the Desert Land Act of March 3, 1877. Those acts have been too often quoted and are too well understood to require a restatement at this time at the expense of unduly extending this opinion.

It has been held that the Act of July 26, 1866, was rather a voluntary recognition by Congress of pre-existing rights, constituting valid claims to a continued use, than the establishment of new rights. *Brodie v. Water Co.*, 101 U. S. 274.

By these various acts, 'the obvious purpose of Congress was to give its assent, so far as the public lands were concerned, to any system, although in contravention to the common law, which permitted the appropriation of these waters for legitimate industries,' and, 'a state may change the common law rule, and permit the appropriation of the flowing waters for such purposes as it deems best.' U. S. V. *Rio Grande Irr. Co.*, 174 U. S. 690.

If, as has been said, the title of the general government to the public lands is that of proprietor rather than sovereign (*Kinney on Irr.*, Sec. 145), it would seem that its rights as such are not greater to the waters of the streams flowing across the lands than those of an individual owner.

In Arizona and Nevada, the statutes declare the ownership of the public in the waters of the natural streams. * * *

The effect of such a declaration has been determined by the Courts of Colorado, whose constitution declares that the unappropriated waters of the streams within the state are the property of the public.”

He then cites with approval the quotations in the first two cases, *supra*, wherein the Supreme Court of Colorado construed the constitution of that state and continued:

“There is to be observed no appreciable distinction, under the doctrine of prior appropriation, between a declaration that the water is the property of the public, and that it is the property of the state.

It is said in *McCready v. Virginia*, 94 U. S. 391, in discussing the subject of tide waters: ‘In like manner the states own the tide waters themselves. * * * For this purpose, the state represents its people, and the ownership is that of the people in their united sovereignty. See also *Martin v. Waddell*, 16 Pet. 410; *Gould on Waters*, Sec. 32; *Bell vs. Gough*, 23 N. J. L. 624. The sovereign is trustee for the public.’ 3 Kent’s Com. 427; *Miller v. Mendenhall* (Minn.), 8 L. R. A. 89.

The ownership of the state is for the benefit of the public or the people. By either phrase, ‘property of the public’ or ‘property of the state,’ the state, as representative of the public or the people, is vested with jurisdiction and control in its sovereign capacity.

* * * There can hardly be any controversy over the power of the state to regulate

prior, as well as subsequent, rights of appropriation. * * *

From any standpoint we think it is clear that the declaration that the waters subject to appropriation for beneficial purposes are the property of the state, is valid and effectual.

The other fundamental principles expressed in the constitution, are, that control of the public waters must be in the state, which in providing for their use shall equally guard all the various interests involved. Such control shall consist in a supervision of the waters, their *appropriation, distribution, and diversion*, by a Board of Control to be composed of certain designated officers, with an officer of technical and practical knowledge and experience at its head; and priority of appropriation shall give the better right."

In closing the opinion he upholds the system of adjudication of priorities by the Board of Control in Wyoming.

Farm Inv. Co. v. Carpenter, 9 Wyo.
110, 135-8, 138-41.

While in *Willey v. Decker*, 11 Wyo. 496, which we shall hereinafter consider, the Court held that as to certain water rights which vested on Young's Creek while Montana and Wyoming were both territories and before either had passed into sovereign control of the streams within their respective borders, the Wyoming court might adjudicate rights for the irrigation of lands in Montana, that opinion was specifically limited to a construction of the particular rights there involved and Chief Justice Potter

took pains to there state that the opinion should not be authority as to rights vesting after the admission of either of the states, and by a later decision in *Grover Irr. Co. vs. Lovella Ditch Co.*, (1913) likewise by Chief Justice Potter, it will appear that Wyoming assumes the same attitude of exclusive control over the waters within her borders which has been taken by Colorado, California and other states.

While the latter case involved the question of the right of a Colorado corporation to condemn lands in Wyoming for the upper portion of its ditch diverting waters in Wyoming from Crow Creek, an interstate stream (rising in Wyoming and flowing into Colorado), and carrying the same across the line for use upon lands in Colorado immediately adjacent to the interstate line, the effect nevertheless of the decision which denied to the Colorado corporation the right to condemn lands for its ditch in Wyoming, was equivalent to forbidding the diversion of water in Wyoming for use on lands in another state, notwithstanding the fact that the *res* and parties were both in Wyoming and submitted to the jurisdiction of its courts.

In a very elaborate opinion Chief Justice Potter reviews the law relative to the exercise of eminent domain in one sovereignty for the benefit of property in another and said in part:

“Eminent domain is generally defined as the right or power of a sovereign state to appropriate private property to particular uses, for the purpose of promoting the general welfare. * * * In this respect the several states are distinct and independent of each other, respectively possessing and exercising the power for their own purposes or their own public welfare. ‘The

eminent domain in any sovereignty exists only for its own purposes.' * * *

"The principle above discussed, that the power of eminent domain will be exercised by a state for its own purposes, and not for the use of another state, seems, therefore, to be applicable. Clearly the State of Colorado cannot exercise the power in this state, and any authority conferred by its laws to do so would be void, for it is fundamental that the sovereignty of any government is limited to persons and property within the territory it controls. * * * *

While this state may be interested and even indirectly benefited in the manner above indicated by the reclamation and settlement of lands in another state, it would be difficult, we think, to uphold the exercise of eminent domain in this state on the ground that such reclamation and settlement in another state is a necessity of the government of this state, in view of the fact that within its own boundaries and in all parts of the state there are vast areas yet uncultivated capable of irrigation and reclamation. * * *

Since the purpose is solely to irrigate lands in another state, it is not material that the headgate is to be located but a short distance above the southern boundary line of this state, or that the lands to be irrigated are located just over the line in the adjoining state. It would make no difference in principle if it was proposed to divert the water from some stream in the in-

terior or elsewhere in our state much farther removed from the lands to be irrigated, or if it was proposed to irrigate lands in another state situated at a greater distance beyond our territorial limits.”

He concludes by denying the right of eminent domain to the Colorado appropriator so as to make diversion in Wyoming.

Grover Irr. Co. v. Lovella Ditch Co., 21
Wyo. 204, 240, 256, 260.

The irrigation officials of Wyoming, under advice of the Attorney General, likewise refused to permit the diversion of waters in Wyoming for use in other jurisdiction.

In an opinion of January 31, 1916, to the State Engineer of Wyoming, involving an application for a permit to appropriate water in Wyoming to be conveyed across the line for use upon lands in Montana, Attorney General Preston concluded:

“On the assumption that there was no law in Wyoming granting any right, privilege or authority to the State Board of Control to be exercised beyond the jurisdiction of the state, this office has heretofore held that the State Board of Control is without jurisdiction to issue a certificate of appropriation of water for the irrigation of lands without the state.

Your request, like the question of the jurisdiction of the State Board of Control, involves a construction of the state laws relating to the application for a permit to divert and appropriate the waters of the state to be used beyond its borders; and as heretofore construed, I am of the opinion that

the State Engineer of the State of Wyoming has no jurisdiction over an application for a permit to divert and appropriate the water of the state of Wyoming, to be used on land beyond its borders, and that the approval by the State Engineer of the application above referred to would be in excess of his authority. See *Walbridge vs. Robinson*, 22 Idaho 236."

(e) **Summary—Colorado and Wyoming.**

It thus appears that each of the states of Colorado and Wyoming have adopted the following fundamental principles of state government:

That the state has full sovereign control and jurisdiction over the waters within its borders and that all such waters are the property of the state to be by it disposed of as it may elect in accordance with its natural conditions and the necessities of its people.

That in permitting usufructuary rights to the citizens of the state, the rule of priority of appropriation to the extent of beneficial use shall control as between such appropriators; and

That the use of the waters of the state, so under its control since its admission to the Union, are exclusively in the state and its citizens and are denied and prohibited to other states or the citizens thereof.

While it might be said that, when the United States admitted Colorado and Wyoming to the Union and recognized and approved the provisions in their constitutions declaring state and public ownership of the waters within their respective boundaries, the United States thereby consented to the said

provisions in their constitutions and the acts of admission amounted to grants from the United States to the states respectively (*Farm Investment Co. v. Carpenter*, 9 Wyo. 110, *supra*), nevertheless we believe that each of the states of the Union, including Colorado and Wyoming, standing as they do upon an equality one with another, and with all other states of the Union, do not derive their sovereign jurisdiction over the waters within their respective borders by grant from the United States, but rather that such jurisdiction was among the powers reserved by the states and not granted to the United States in the Constitution, either by express terms or necessary implication. (*Stockman vs. Leddy*, 55 Colo. 24; *Kansas vs. Colorado*, 206 U. S. 46; *United States vs. Hanson*, 167 Fed. 881).

The original thirteen states were in all respects independent nations at the time of the formation of the Union and none of them surrendered the waters within their borders or the jurisdiction and control thereof to the United States, save for regulation of navigation, and each of the new states thereafter coming into the Union upon an equality with the original thirteen, likewise reserved unto itself the same jurisdiction and control of the waters within its borders as that retained by the original states.

By either process of reasoning, however, we find in this case two sovereign states of the Union contending as such, over the waters of a stream rising in Colorado and flowing into Wyoming, where it unites with other tributaries of the Laramie River.

Although the controversy is between sovereign states and not between mere individuals claiming private property rights, the rights of the sovereign are the more clearly revealed by brief consideration of the rights of the individual, in order that the con-

trast between the two classes of right may be the better defined.

**V. EITHER RIPARIAN OR APPROPRIATION DOCTRINES
ARE BUT RULES OF PRIVATE PROPERTY.**

We believe that sufficient already appears to justify the conclusion that either the doctrine of riparian rights or the doctrine of appropriation are, at most, rules of law for determining private property rights of citizens of the various states in their uses, under regulation of sovereign power, of the waters of the states according to the natural conditions prevailing in the various portions of the United States and according to the necessities of the various states and the citizens thereof.

As we shall hereafter more at length observe, either rule is one of equality or inequality before the *local* law, of the rights of one particular class of citizens to the utter exclusion of all other classes and that by either rule a certain favored portion of the people are given a right to enjoy the natural resource which is denied to the remainder of the people of the state, subject of course to various modifications of this general principle according to the will of the sovereign, the state, as expressed by its *local* laws, customs and decisions.

While the two rules are fundamentally to be contrasted and in absolute conflict one with the other, yet as the riparian doctrine has been modified and enlarged by the various states where it obtains, to meet local necessities, and the appropriation doctrine has in other states been restricted to meet the local conditions there obtaining, and in still others both rules have been adopted, enlarged and modified to meet local necessities (as in California, Kansas, Nebraska, Oregon, Etc.), we find that after all, they

define but *private property rights* of the citizen under control of the state, the former obtaining at best but a usufructuary right in the property of the latter and that, in the final analysis, the right of the individual must ever yield to the will of the state which if it so wills, may take away the usufructuary right of the citizen by eminent domain and establish an entirely new order of things.

In the light of the reasoning of this and other courts, which we have at length already quoted, it would appear unnecessary to further discuss this phase of the argument, but, out of ample caution, we shall give it limited attention condensing the presentation of authority by quoting from accredited authors to a considerable degree in order to avoid prolonged citation from the numerous decisions of the courts of both England and the United States.

(1) **Riparian Rights.**

Chancellor Kent thus defines the usufructuary private right of the riparian land owner under the common law:

“Every proprietor of lands on the banks of a river has naturally an equal right to the use of the water which flows in the stream adjacent to his lands, as it was wont to run (*curre solebat*) without diminution or alteration. No proprietor has a right to use the water, to the prejudice of other proprietors, above or below him, unless he has a prior right to divert it, or a title to some exclusive enjoyment. He has no property in the water itself, but a simple usufruct while it passes along. *Aqua currit et debet currere ut currere solebat* is the language of the law. Though he may use the water while it runs

over his land as an incident to the land, he cannot unreasonably detain it, or give it another direction, and he must return it to its ordinary channel when it leaves his estate."

3 Kent Com., Sec. 439.

It will be noted that Chancellor Kent's definition limits the "equal" right to "every proprietor of lands on the *banks* of a river". Thus while the usufructuary right was "equal" as to the particular class "proprietors of lands on the banks" it was necessarily exclusive as to the remaining lands not so situate by nature. Hence, while the right is frequently termed an "equal" right, it is so only to a limited class of citizens and, as regards all the lands of the state, is an *exclusive* rather than equal right. This distinction will be found throughout the interpretation of the common law.

Blackstone said:

"For water is a movable, wandering thing, and must of necessity continue common by the law of nature; so that I can only have a temporary, transient *usufructuary* property therein."

2 Blackstone Com., p. 18.

Again:

"But, after all, there are some few things, which, notwithstanding the general introduction and continuance of property, must still unavoidably remain in common; being such wherein nothing but an *usufructuary* property is capable of being had; and, therefore, they belong to the first occupant, during the time he holds possession of them,

and no longer. Such (among others) are the elements of light, air and water; which a man may occupy by means of his windows, his gardens, his mills, and other conveniences; such also, are the generality of those animals which are said to be *ferae naturae*, or of a wild untamable disposition, which any man may seize upon and keep for his own use or pleasure. All these things, so long as they remain in possession, every man has a right to enjoy without disturbance; but if once they escape from his custody, or he voluntarily abandons the use of them, they return to the common stock, and any man else has an equal right to seize and enjoy them afterward."

2 Blackstone Com., p. 14.

Vice Chancellor Bergen in *McCarter v. Hudson County Water Co.*, *supra*, analyzed the law of private property rights under the riparian doctrine and in part said:

"Thus it appears from immemorial times *running water*, as one of the elements of life, health and comfort, has been esteemed common property, subject to *usufructuary* use by the owners of land over which it passed, a use which, by legal construction based upon public needs, has been from time to time enlarged to meet the demands of civilization and preserve the peace of society, but it has never been extended to the point of absolute ownership, to the detriment of a lower landowner. If diverted, it must be returned undiminished, except as to the incidental waste made necessary by the personal private use, for domestic and other

recognized lawful purposes appertaining to the land and its occupant.”

While he based his decision upon the grounds, primarily, that New Jersey had the right to insist that the waters of the river should flow to the tide waters, over which she had undoubted control, nevertheless the following language is indicative of the character of the rights of the riparian owners:

“My opinion is that, subect to the lawful transient rights of riparian owners along the banks of running streams the waters of which finally empty into a tidal stream, there is vested in the sovereign power the right to insist upon the proper riparian user of the waters therein, in order that the common right to the use of the residue, which is not private property, may be preserved for the benefit of those to whom all common property belongs; nor would the grant of every owner of land along the stream, from its source to tidewater, affect the right of the public (for which the state is but another name), for that only can be granted which the grantor hath, which is the transitory *usufructuary use*, subject to which running water is *publicis juris*. As the threatened act is an invasion of a common right, in that it will result in the removal from the state of the common property, it has a right to protest against the proposed increased diversion, and should seek to protect the public estate.”

McCarter v. Hudson County Water Co.
70 N. J. Eq. 525, 531, 534.

In the same case on review, Mr. Justice Pitney discussed the nature of right of the riparian owner and found it to be but a private usufructuary estate inferior and in all respects subordinate to the paramount right and title of the state.

McCarter v. Hudson Co. Water Co., 70
N. J. Eq. 695.

Mr. Justice Holmes on review of the case before this Court, likewise treated the rights of riparian owners as mere private usufructuary estates subject to State control, in which he said in part:

“It sometimes is difficult to fix boundary stones between the private right of property and the police power when, as in the case at bar, we know of few decisions that are very much in point. But it is recognized that the state as *quasi*-sovereign and representative of the interests of the public has a standing in court to protect the atmosphere, the water and the forests within its territory, irrespective of the assent or dissent of the private owners of the land most immediately concerned. *Kansas vs. Colorado*, 185 U. S. 125, 141, 142; S. C., 206 U. S. 46, 99; *Georgia v. Tennessee Copper Co.* 206 U. S. 230, 238. * * It appears to us that few public interests are more obvious, indisputable and independent of particular theory than the interest of the public of a state to maintain the rivers that are wholly within it substantially undiminished, *except by such drafts upon them as the guardian of the public welfare may permit* for the purpose of turning them to a more perfect use. This public interest is omnipresent wherever there is a state, and grows more

pressing as population grows. It is fundamental, and we are of opinion that the *private property* of riparian proprietors cannot be supposed to have deeper roots. Whether it be said that such an interest justifies the cutting down by statute, without compensation, in the exercise of the police power, of what otherwise would be private rights of property, or that apart from statute those rights do not go to the height of what the defendant seeks to do, the result is the same. But we agree with the New Jersey Courts, and think it quite beyond any rational view of riparian rights that an agreement, of no matter what private owners, could sanction the diversion of an important stream outside the boundaries of the state in which it flows. The *private right to appropriate* is subject not only to the rights of lower owners but to the initial limitation that it may not substantially diminish one of the great foundations of *public welfare and health*."

Hudson Co. Water Co. vs. McCarter,
209 U. S. 349, 355.

The mere private, usufructuary property rights of the riparian owner as compared with the paramount and superior right of the state, are learnedly discussed and distinguished by Mr. Justice Peckham in an earlier case, wherein he affirms the rule that the extent of the exercise of the private right is a matter of local law with the several states of the Union.

St. Anthony Falls Water-Power Co. vs.
St. Paul Water Comm. 168 U. S.
349.

Mr. Justice Brewer said:

“It is the settled rule that the question of the title of a riparian owner is one of local law.”

Whitaker vs. McBride, 197 U. S. 510, 511.

The late Mr. Kinney in the 2nd Edition on “Irrigation and Water Rights,” Part VI, Chapters 21 to 28 incl. Vol. 1, elaborately discussed the common law rule of riparian rights (1) as it prevailed in England, (2) as enlarged under control of the several states of the United States, where adopted, to suit local conditions and necessities, and in some of which it has been so enlarged as to permit use thereof for irrigation, even to the extent of largely consuming the waters of the stream, contrary to the original limited usufructuary right.

Throughout the treatise run the fundamental principles (1) that it is a mere rule of private property and (2) a usufructuary right, applying equally to all owners of lands touching the stream to the exclusion of all others not so situate.

We briefly quote from the two hundred pages of text:

“The common law rights of riparian proprietors are such as grow out of, or are connected with, their ownership of the banks of the streams and rivers, or other bodies of water. (p. 760.)

In general riparian rights are incident to the ownership of the banks of a stream, or the shores of some other body of water, which the riparian owner possesses exclusively, distinct from the rest of the public, by reason of the fact that his land is so sit-

uated that it touches the waters. All the facilities which the location of his land, with reference to the body of water, affords he has the right to enjoy for the purpose of gain or pleasure, and these oftentimes give property thus situated its chief value. It is evident from the nature of the case that these rights of user and of exclusion are connected with the land itself, grow out of the location, and can not be materially abridged or destroyed without inflicting an injury upon the owner which the law should redress. It seems unnecessary to add the remark that these *riparian rights are not common to the citizens at large*, but exist as incidents to the right of the soil itself adjacent to the water. In other words, according to the uniform doctrine of the best authorities, the foundation of riparian rights, *ex vi termini*, is the ownership of the bank or shore. In such ownership they have their origin. (p. 762.)

‘Riparian rights,’ according to the strict meaning of the phrase, are such as follow or are connected with the banks of streams or rivers. These rights are a species of property, which belong to the owner of the bank or banks of a stream, and do not depend upon the fact as to whether or not he is the owner of the bed; neither do they depend at all upon the fact as to whether the owner actually uses any of his rights or not, provided he has not lost any of them through grant or prescription.

* * * * *

Unlike the rights acquired to the use of water under the Arid Region doctrine of appropriation, riparian rights require no act upon the part of the owner, with the exception of the acquisition of the land adjoining such waters. These rights, in those jurisdictions where the common law is followed in this respect, are attached to the land itself and are a part and parcel of it. As an incident to such estate they pass by a deed to the land, unless specifically reserved by the grantor. (p. 765.)

One of the most important rights which a landowner has by virtue of his riparian ownership is the right to the *use* of the water as it flows by his land. Although this is a property right, accorded to him by virtue of the natural position of his land upon the stream, as in the case of public waters, this property right is in its nature usufructuary. A riparian owner has no absolute title to the water itself of a stream as it flows by his land. He may, however, have the right to apply it to certain uses.

* * * * *

All the riparian owners, through or by the side of whose land a stream naturally flows, may enjoy the privilege of using it.

* * * The rights of all riparian proprietors upon a stream are equal. * * *

In fact, the water must be so used by any one that no injury will result to the other owners or to any one of the other owners. This is the necessary result of the perfect equality of right among all of the proprietors. (p. 769.)

The riparian owners also have some duty to the public. While the rights of the riparian owners can not be destroyed by the public without just compensation, *they are always subordinate to the public rights*, and the state has the power to regulate their exercise in the interest of the public." (p. 771)

Of modification and enlargement of riparian rights to meet local necessities, especially in the Pacific Coast States (not the states of the Rocky Mountain Region), he said:

"In some of the States and Territories of the Western portion of this country, riparian rights as defined by the common law have been entirely abolished; we will add that in others they have been modified to a great extent, and in still others they exist with but few modifications as they are interpreted by the Courts of England and the Eastern States. We have also shown in previous sections, that although irrigation of the soil under certain circumstances was perhaps allowed under the strict application of the common law theories, it was so restricted by certain rules and restraints placed upon its practicable workings that these theories unmodified were found to be wholly inapplicable to irrigation as it is known and applied in the "Great Arid West." In that part of the country, in order to make the soil productive, there must be an application of the waters of the streams upon it. In order to apply it to the soil there must be an actual diversion from the natural stream; and, owing to the porous soil, the hot sun, and dry atmosphere,

a certain loss or diminution in quantity must necessarily follow as a result of its application and use for irrigation. Hence, in all of the states and territories in the arid West, even in those where the common law theories are most strongly applied to riparian rights, there has been a modification of these theories to this extent, that a riparian proprietor may take water from the stream and may make a reasonable use of it for purposes of irrigation. It is considered in the Pacific states that irrigation must be held in that climate to be a proper mode of using water by a riparian proprietor and the lawful extent of the use depends upon the circumstances of each particular case. In other words, the right of a riparian proprietor to irrigate his lands, to the extent that it is permitted under the Western American doctrine of riparian rights, is a great modification and extension of that doctrine as defined by the later English and Eastern American authorities." (p. 873.)

Of the exclusion of one class of land owner (non-riparian) for the benefit of the preferred class (riparian) he in part said:

"As we have seen, riparian rights of all kinds depend upon the ownership of the banks of the streams or other bodies of water. The lands for which they are claimed must touch upon the water. Hence it follows that one who is not a riparian owner can not use the water of a stream for irrigation as a riparian right. His claim would lack the essential element—ownership

of the bank of the stream. No person can take water from a stream, under the common law right, for the purpose of irrigating his tract of land which is separated from the stream by intervening lands belonging to other riparian proprietors. * * *

A riparian proprietor has no right to irrigate non-riparian land, by virtue of his title to other lands which touch upon the water of a stream and therefore are themselves riparian. Whatever may be his right to a reasonable use of the water of the stream to irrigate his riparian land, he has no right to conduct any of the water to irrigate other lands not riparian. In this respect the common law as it is enforced in England and in the Eastern States is in accord with the Western American Doctrine.

* * * * *

As we have seen in previous sections, it is by a strained construction of the common law upon the subject that irrigation is permitted to the extent that it is practised in the Western states, as a riparian right." (p. 898.)

Kinney on Irrigation and Water Rights,
(2nd Ed.) Ch. 21 to 28 incl.

Mr. Wiel, in the 3rd Edition of his "Water Rights in the Western States," devotes Part IV, as well as previous portions, to an elaborate discussion of riparian rights. Such rights are there defined as merely usufructuary and private property for the benefit of one class of land owners (equal among themselves) to the exclusion of all other landowners. He in part says:

“While the law does not regard the liquid itself as property while flowing naturally, any more than the air, it recognizes nevertheless, a very substantial right in its flow and use; the rights to have the liquid flow and to use and take of it; which the law calls *usufructuary right*, or ‘the water-right.’ * * * And says Story: ‘But, strictly speaking, he has no property in the water itself, but a simple use of it while it passes along.’ And Kent: ‘He has no property in the water itself but a simple usufruct as it passes along.’ In a Nebraska case it is said: ‘The law does not recognize a riparian property right in the *corpus* of the water. The riparian proprietor does not own the water. He has the right only to enjoy the advantage of a reasonable use of the stream as it flows by his land, subject to a like right belonging to all other riparian proprietors.’ ” (p. 754.)

Of the exclusion of non-riparian owners for the benefit of the limited class (riparian owners):

“Having alone the access, the riparian proprietors alone have the right to take of the water. * * * All but riparian proprietors were thus shut out from the stream, * * * The law of riparian rights grows out of this exclusion of non-riparian owners because they have no access to the water.

Lawful access was given by the ownership of riparian land, and being so given, was equally afforded to all the riparian owners. Since all have an equal right to access. They all consequently have the same and

equal right to take and use the water." (p. 759.)

And further:

"Unlike an appropriation, riparian rights need no act of the owner to acquire them, they attach to the land bordering on the stream of their own accord. The riparian right is a privilege that is part and parcel of the riparian land that gives the access to the water; the right of access and all that follows from it being an inseparable result from ownership of the land like the right of support for the land. The riparian right is inherent in the riparian land and part and parcel of it; an inherent result of the relative position of the land to the stream as a natural resource. * * * The right is 'an *incorporeal* hereditament appertaining to the free hold.'

* * * *The riparian right, like the right by appropriation, is solely usufructuary,* * * * The right is to a flow and use merely, * * *

This usufruct is perpetually annexed to the riparian land whether availed of by irrigation or other works or not at all; just as the right of the landowner to build a house on the land remains though no house is ever actually built." (p. 777-81.)

After devoting Chapters 31 and 32 to the application of the rule according to the local necessities of various states, he devotes Chap. 33 to limitation of use between riparian owners, saying:

"Speaking generally, non-riparian owners are *excluded entirely* from rights in

the stream, and riparian owners are given rights only for use on their own riparian land; they also cannot take the water to non-riparian land, whether it be their own or someone else's. * * * The limitation to riparian land arises, first, by the *exclusion* of non-riparian owners because their lands have no access to the water; second, because he who has access (the riparian proprietor) can excuse the damage (which any taking may cause to the land of other riparian proprietors) only on the ground of reasonable use of his own land." (p. 832.)

Without further citation, we trust sufficient appears to justify the conclusion that the riparian doctrine is but a rule of private usufructuary right to the use by the citizen of waters of a sovereign state, subject at all times, as all other property of individuals, to the regulation and control of the state and varying in the states of the Union where adopted, according to local law as local conditions and necessities require in order that the state may obtain the greatest good from her natural resources.

(2) **Rights by Appropriation.**

Rights by appropriation in the order of priority are directly antagonistic to riparian rights. The one is based on the title to the banks with incidental uses of the water, and the other on use of the water upon any lands (riparian or non-riparian) irrespective of location and the claims of other appropriators junior in point of time. Yet, as we shall observe priority by appropriation is, like the riparian doctrine, but a rule of private property of individuals under like control of the sovereign state, and such

are likewise but usufructuary rights in the public property (the water).

To cite authorities would appear needless for *the very basis of all rights by appropriation is beneficial use*. The rule is well expressed in Sec. 8 of the National Reclamation Act:

“Beneficial use shall be the basis, the measure and the limit of the right”

and *all rights by appropriation must, therefore, of necessity be usufructuary*.

But, inasmuch as the character of such a right is, after all, largely the question here involved, we pause to briefly consider the source and character of this property right, and to first determine its fundamental principles and its place among the mere private property rights of individuals, before proceeding to a discussion of whether or not this rule of the law of private property may be applied to a determination of the sovereign rights of states.

Rights by priority of appropriation are as exclusive in their nature (but in a different manner) as are rights under the riparian doctrine. Under the latter, we have observed, the waters are limited to the one class of land owners (the bank owners) to the exclusion of the rest of the citizens of the state (owners of non-riparian lands) while under the rule of appropriation, the right of the first taker to the use of the water of the stream, to the extent of his beneficial use and upon lands wherever situate, is exclusive of the rights of all others who may wish the water, with the limitation that the first taker must apply the water within a reasonable time, must not divert more than his necessities actually require and must not enlarge his demands on

the stream to the depletion of the supply of his juniors. But, if the first appropriator's necessities actually so require he may take all the water of the stream to the exclusion of all others.

(See Sup. Brief Wyoming, pp. 134-140. The right of the prior appropriator is exclusive).

Both these general rules of exclusive use (riparian and appropriation) are after all but usufructuary in their nature, are but rules of private property of the citizen and are regulated, controlled, modified, abolished or re-established by the state according to the local conditions and necessities and at the will of the sovereign power. As stated by Mr. Justice Brewer in *United States vs. Rio Grande Irr. Co.*, (174 U. S. 690, 702):

“While this is undoubted, and the rule obtains in those states in the Union which have simply adopted the common law, it is also true that as to every stream within its dominion a state may change this common law rule and permit the appropriation of the flowing waters for such purposes as it deems wise.”

And by the same learned Justice in *Kansas vs. Colorado* (206 U. S. 46, 94):

“It may determine for itself whether the common law rule in respect to riparian rights or that doctrine which obtains in the arid region of the West of the appropriation of waters for the purposes of irrigation shall control. Congress cannot enforce either rule upon any state.”

Mr. Wiel, in the 3rd edition of “Water Rights in the Western States” classes rights to the use of

water under either doctrine as mere rules of private property, usufructuary in character, and under state control:

“The law of watercourses is a law of streams as natural resources. The water running therein unrestrained is the property of no one, but a portion of it taken out of the stream and confined in the possession of an individual becomes the taker’s private property, belonging to him while under his possession and control; and the law of watercourses is a development of the rules under which one may thus take of the water and make it his own. There is a large body of law specifying *who* may avail themselves of this privilege and to what limitations they are subject, forming in the common law, ‘the law of riparian rights,’ and in the West, ‘the law of prior appropriation.’ (p. 1).

The result of these authorities is that the *corpus* of naturally *running water*—the water in the natural resource—was classed in the Institutes and civil-law writers with the air, and those things which cannot be owned while in their natural state and condition, or as they have been called, the ‘negative community.’ * * * However, as an outgrowth of this variation of the idea of the ‘negative community’—the change from ‘common’ to ‘public’—there is quite generally today a tendency to substitute the positive expression that running water belongs to the state in trust for the people or the public, in analogy to a similar change in the way of stating the law regarding wild game, and the law of the beds of navigable waters.

* * * * *

In nearly all now of the Western states this change of expression is, by statute, introduced regarding running water. All waters within the state are declared to be 'the property of the public' (or to 'belong to the public'). * * * there are also declarations that waters are 'the property of the state.' * * * however, there is no substantial difference in the two forms of expression (that is, whether common or public; *res communes* or *publici juris*; the property of no one or the property of the state in trust for the people). *So far as they concern the private rights of individuals, whether under the law of appropriation or the common law of riparian rights*, both are founded on the ancient view taken by the law that running water unrestrained in its natural course belongs to the 'negative community.' (p. 4-13).

While the *corpus* of naturally running water is thus in the negative community and not the subject of private ownership (or 'belongs to the public'), the law recognizes nevertheless a very substantial right in its flow and use,—the right to have the liquid flow and to use it, which the law calls usufructuary right,' or the 'water right.' The law of watercourses consists of the rules governing this right of flow and use of the natural resource." (p. 14).

After discussing the authorities on the usufructuary character of riparian rights he continues:

"The right of an appropriator under the western law of prior appropriation is

governed by the same principle. Nothing is more firmly settled in the West than the rule that an appropriator can have no ownership in the water, as such, in the natural stream above head of canal or ditch, and that his right is solely one to have the stream water flow to his ditch so that it may be used.

This principle of a *private* right in the use of the natural resource as distinguished from the substance itself is taken from the law of 'usufruct' in the Institutes, and is well recognized today. This usufructuary right, or 'water-right' is the substantial right with regard to flowing waters; is the right which is almost invariably the subject matter over which irrigation or water power or similar contracts are made and litigation arises; and is real property. *It is as fundamental under the law of riparian rights as under the law of appropriation.* Under the latter the right of use lasts only while in actual application. Under the former the *right* of use is perpetual whether actually exercised or not; it is perpetually annexed as a privilege to the riparian freehold, to be put into actual exercise whenever its owner will, or not at all, but none the less a mere right of use, present or future, including no ownership of any drop of the water while it continues flowing naturally. * * *

The law of watercourses under whatever system (whether appropriation or riparian rights), borrowing from the civil law, is but a development of the exercise of the *usufructuary* right, and of the severance in pursuance of it, of a portion of the water from the natural stream. (p. 19).

A *water-right* is a *usufruct in the stream*, the natural resource, consisting in the right to have the water flow so that some portion of it (which portion the law limits in various ways under the system of prior appropriation or the system of riparian rights) may be reduced to possession and made the private property of an individual.

* * * * *

The nature of the right of ownership existing in naturally running water is that of having it flow, of using it, and of taking it into possession by diverting it into artificial structures, ditches, reservoirs, cisterns, barrels, canals, pipes, and the like, thereby making private property of a part of it, during the time it is held in possession and control." (p. 22).

After discussing the temporary character of property in water severed from the stream:

"The value of the foregoing lies in showing that the *corpus* of water in the stream itself, as a substance, is not the subject of property (is in the 'negative community' or 'belongs to the public'), and that one may have only the strictly usufructuary right to the flow and use of the stream. * * controversies must, as a rule, be decided with regard to the flow and use of the natural water supply, and not its *corpus*; for the usufruct of the natural resource (and not the water itself) is alone of practical importance.

This is having much influence in the West under the law of appropriation, *which*

forcefully denies that a water user has any ownership in the water of the stream, from which he diverts (that 'belongs to the public'), but only a right to continuance of supply from the natural resource during the beneficial use. Under the common law of riparian rights the principle is as true—a riparian owner also has no ownership of the water of the stream to which his land is riparian. He also has only a right of continuance of supply, though this right of a riparian owner differs from the law of appropriation, in that it is, confined to periods of use, but is perpetually reserved to his land,—a perpetual right to have the supply from the natural resource continued for future possible use whether now used or not." (p. 45.)

Of the elements of law of prior appropriation by way of introduction:

"In the law of watercourses the rules governing the usufruct in natural streams form the bulk of the law. The law of watercourses is a law of natural resources. We shall deal with this body of law under two systems prevailing in the Western states; first, the system of prior appropriation (the system of priorities), which gives unequal rights in streams according to the relative times of beginning use; second, the common law of riparian rights (the system of correlative rights), which gives equal rights to all riparian proprietors without regard to the relative times of beginning use." (p. 287).

He then quotes Blackstone B. II, Ch. 25, on the rule of common law, and says:

“The right of an appropriator is likewise only usufructuary. Although for shortness’ sake, the appropriator is spoken of as the owner of the water, yet there is no property in the water itself nor in the channel of the stream conferred by the appropriation; the appropriator owns only a right to have the *flow and use* of the stream, which is called his ‘water-right.’ The stream water itself is in the ‘negative community,’ the property of no one; or, by the recent Water Code form of expression, ‘belongs to the public’ or to the ‘state in trust for the people.’ ” (p. 289.)

And further:

“As opposed to the correlative rights of the common law, whereby all riparian owners on the stream have equal rights, under the law of appropriation the rights of the claimants are unequal. Each has an exclusive right to the extent of his prior appropriation, and appropriations vary greatly in the extent of right appropriated. ‘A party appropriating water has the *sole and exclusive* right to use the same for the purpose for which it was appropriated.’ So long as the water is put to a beneficial use, priority alone governs. Full protection is given to the prior appropriator against all later comers. * * *

The right to exclusive use carries with it such right to exclusive flow as is necessary to preserve the appropriator’s use

without damage to his use; but is not violated by any act that does not interfere with his use of the water. The right to the flow is subordinate to the right of use, and cannot exceed it." (p. 291.)

Of the extent to which an appropriator may divert the stream:

"If for a beneficial purpose, one may hence appropriate a *whole* stream. An appropriation is limited to beneficial use, but may absorb a whole stream to that end. 'Under such doctrine the first appropriator may appropriate the entire flow of a stream, if used in proper irrigation. Also, a *non-riparian owner may appropriate and get an exclusive right to the whole water of a stream for non-riparian lands.*' Another says: 'Beyond question, under our laws (Idaho), a party may be protected in the use of all the water he actually appropriates and uses, even if it be every drop that flows in as great a river as the Snake.'

In times of natural or other deficiency, also, unless otherwise provided by statute, the prior appropriator may still claim his full amount; the loss must fall on the later appropriators." (p. 311).

The late Mr. Kinney in Vol. 1 of the 2nd edition of his work on "Irrigation and Water Rights" treats the title of the appropriator as a usufructuary right of private property under the sovereign control of the state:

"We have seen in previous sections that, in this country it is within the power of

a state to declare whether the ownership of the soil under its waters shall remain in the state, or shall vest in the riparian owners.

* * * * *

In this chapter we shall attempt to show that the common law in many of the Western states has been modified by a declaration either in their respective constitutions or by legislative enactment, to the effect that the waters within such respective jurisdictions are 'the property of the state' or 'the property of the public.' Respecting the declaration that the waters are 'the property of the state' or 'the property of the public,' the Courts hold that these two terms are synonymous. As was said by the Court: 'There is to be derived no appreciable distinction, under the doctrine of prior appropriation, between a declaration that the water is the property of the public and that it is the property of the state.' What is really meant by the above expressions is that the running water is *publici juris*, or open to the people of the respective states for appropriation for beneficial uses or purposes. As was said in a Wyoming case: 'Under the rule permitting the acquisition of rights by appropriation the waters become, perforce, '*publici juris*.' '' (p. 632.)

Of causes leading to dedication of water to the state with usufructuary titles (beneficial uses) in the individual, he said:

"Owing to the climatic conditions, the search for gold, and the exceeding fertility of the soil, settlers were attracted to these

arid regions, and the use of the water by diverting it from its natural channels and applying it to some beneficial purpose continued. When the population of certain sections had increased to such an extent as to make it practicable, territorial governments were formed, including certain portions of this region, and these were followed by state governments. * * * In a number of these states, in the constitutions themselves, there was a provision made dedicating all the waters within the state to the public, or to the state. * * * By this doctrine it is seen that the title to the use of the water is in the public, or the state, *which in turn, under its regulative or police powers, may prescribe by legislative enactment the details as to how an individual or corporation may acquire the right to the use of a portion of the water.*

* * * Coming down to the rights of the appropriator, in a jurisdiction where there has been an absolute dedication of its waters either to the public, as is the case in Colorado, or to the state, as is the case in Wyoming, it is held that the appropriator secures a right of use, which has been held, with good reason, to amount to a property right, and not a title to the running water itself, except, it may be, to such quantity as shall from time to time be lawfully diverted into his own ditches. *The title to the water of the appropriator fastens, not upon the water while flowing along its natural channel, but upon the use of a limited amount thereof for beneficial purposes in pursuance*

to an appropriation lawfully made and continued. The appropriation is made upon the basis that the public or *state is the owner* of the waters, and is protected, instead of impaired, by the constitutional dedication." (p. 635).

Of the effect of state regulation of private usufructuary rights to water and variation of the laws among the states:

"It will be noticed that in the dedication to the state, or public, the constitutions and statutes of the respective states, quoted in the preceding sections, vary greatly in the terms used. * * * some follow in certain features the California dedication, and others Colorado and Wyoming, while still others take positions somewhere between, depending largely as to whether or not it was the object to abolish the common law or riparian rights.

As we have seen, *it is left to each state to adopt whatever rule it sees fit relative to the use and control of the waters within its jurisdiction*, so long as the rights of the government are in no way impaired. And, as there was no general rule or guide upon the subject which a state was bound to follow, each state has adopted a rule of its own. In fact, *there are no two states where the laws are the same*. Some states may follow California in their main features, others may follow Colorado, but it will be discovered that each state has independent features of its own; and hence it follows that no state has a rule which in all of its features

will apply to any other state. The different grants in the dedications of the waters, of course, give different rights to the use of those waters, either by the public or by individuals. And these dedications, either being in the constitutions or by positive legislative enactment, are the fundamental laws upon the subject, and they themselves being different, have led to the enactment of different laws and different systems in various states. There are, however, many features in common, which will be discussed in the subsequent portions of this work. But to speak of the California rule or doctrine, or the Colorado rule or doctrine, is incorrect, unless the expression is used in the popular sense, except as the same may apply to the particular states of California or Colorado themselves, as each state has a rule or doctrine of its own. There is, however, the doctrine of state control or the state administration of waters, which is based upon the dedication of the waters within a state, either to the state itself or to the public, and has been adopted by many of the Western states. *But even the laws of state control differ greatly in the different states. Different rights are granted, different methods of the appropriation of water provided for, and entirely different powers given to the state officers who administer the law upon the subject.*" (p. 654).

He thus defined the doctrine of appropriation:

"The Arid Region Doctrine of appropriation may be defined as that doctrine or

rule of law which has grown up in this Western portion of our country, governing the use of the water of the natural streams and other bodies, by its appropriation for any *uesful or beneficial purpose*, based upon the physical necessities of the case; and, whereby for the purpose of applying the water to some *beneficial use*, the water must be diverted from its natural channels, and, in contradistinction to the strict construction of the common law of riparian rights, the place of use may be on either riparian or non-riparian lands, and the right based upon priority." (p. 1009.)

After discussing the reason for the rule to be the "imperative necessities" of the western states, and the variations in the rule as adopted or only partially adopted in each thereof, he continued:

"The control as a sovereign, of the waters within the boundaries of a state is left entirely to the state itself. Each state has the power either by legislative enactment, or by court decision, to adopt such a rule governing the waters flowing or standing therein, as it sees fit. A state may adopt the common law of riparian rights only, as has been done in the Eastern states. And, in this connection it may limit and define the rights of riparian owners in and to the waters of such streams and to the soil lying under the same. A state may also adopt a modified form of riparian rights allowing a more extensive use of the waters of streams, especially for irrigation, than was allowed under the strict rule of the common law. This has been done in California,

and some of the other Western common law states.

Again, a state may entirely abrogate the common law of riparian rights, and adopt in lieu thereof the Arid Region Doctrine of Appropriation, as defined in this chapter, and as enforced, as set forth in the following chapters of this part.

And, still again, a state may retain the common law of riparian rights, and at the same time adopt the Arid Region Doctrine of Appropriation, and thus have the dual systems of laws governing waters, within its jurisdiction.

As far as the United States Government is concerned by those various Acts of Congress, fully discussed in future portions of this work, it has waived its rights as sovereign in and to the government and control of the waters flowing or standing within the boundaries of any state, and has conferred the jurisdiction of such waters upon such state. * * *

It has also become the settled rule of law of the Federal courts that such courts will adhere to the rule that *each state has the right to adopt such law or laws*, as it sees fit governing and controlling the waters and the use thereof within its boundaries, and that the Federal courts will follow in their decisions the rule or rules so adopted by such jurisdiction. This is true whether that rule of law is adopted by such state by statutory enactment, or by decisions of its highest court. In other words, such state may

decide for itself, as to the applicability or inapplicability of the common law rule as applied to the physical conditions of such State; and, if such rule is determined to be inapplicable, the state, in lieu thereof, may adopt such other rule as it sees fit governing the entire subject of waters and their uses within its boundaries." (p. 1025).

A "water right" is thus defined:

"A water right, acquired under the Arid Region Doctrine of appropriation, may be defined as the *exclusive*, independent property right to the *use* of water appropriated according to law from any natural stream, based upon possession and the right continued only so long as the water is actually applied to some beneficial use or purpose; it is an incorporeal hereditament, so far as it includes the right to have the water flow over the lands of others down to the head of the appropriator's ditch; but the water is a corporeal hereditament after it has been once taken into the ditch or reservoir of the appropriator and is in his actual possession for the purpose of application to his uses." (p. 1313).

The water right is exclusive:

"In our definition of the term "water right" under the doctrine of appropriation, we said that it was an exclusive right. This is one of the most important distinctions between the right to the use of the water of natural streams under the common law of riparian rights and under the doctrine of appropriation. Under the common law the

right to the use of the water by one individual depends upon the equal or correlative rights to its use by all of the riparian owners upon the same stream." (but of course is exclusive to one class as against another class of citizens). "In this dry and arid country, where the water is exceedingly scarce and there is not enough for all, instead of following the common-law rule as to its use, or 'parceling it out generally and making it practically valueless to any,' in the early days of the settlement of this portion of the country, there was adopted the only rule founded in equity that could be rightfully adopted in the premises, based upon priority of the appropriation. He who first appropriated a certain amount of water from a natural stream should be rewarded for his industry and enterprise by the right to the use of the water to the full amount of his appropriation as long as he applied the same to some beneficial use or purpose, and to the exclusion of all others where they interfered with his right. * * * an appropriator has the several and exclusive right to the use of the water included within the extent of his appropriation." (p. 1314.)

The usufructuary right is governed by state laws:

"One of the essential elements of a water right is that the water upon which it is based must have been appropriated *according to the law of the states where the appropriation is made.* * * * If there is a statute or a water code in the state

where the appropriation is attempted, its provisions must be strictly complied with in order to secure the benefits allowed under it." (p. 1316).

The right is a mere possessory right:

"a water right in early times was considered and was merely a possessory right. And today a water right is but a possessory right. Upon the other hand, statutes have been enacted whereby the owner of a mining claim having but a possessory right thereto can secure an absolute title in fee to the same. There is no law whereby a possessory owner of a water right can secure an absolute title in fee to his right. The title to a water right has never been 'elevated to the dignity of a fee.' And, furthermore, the right is but a conditional possessory right; the possessory right depending upon the condition that all of the water claimed under the right is continually applied to some beneficial use or purpose. With the failure to comply with the condition of use for a certain time the right terminates, and it is either deemed abandoned, or forfeited under a statute, as the case may be. This is as it should be. If the law were otherwise, and if a person could secure the absolute title in fee to a water right, calling for a definite amount of water flowing in a certain stream, and then continue to own and hold the same, and that, too, whether he applied the water to any beneficial use or purpose or not, and thereby prevent others from using the water, it

would subvert and overturn the whole system of the doctrine of appropriation as it is in force today. It is true that a water right has acquired the dignity of real property, but real property is owned and held by many kinds of title, the one highest in degree being an absolute title in fee simple. If the law remains as it is no one can hope to secure an absolute title in fee simple to a water right, but he may, as long as he complies with the condition of applying the water claimed to some beneficial use or purpose, acquire an exclusive possessory right." (p. 1317).

and is conditional on *continuous use* :

"Not only must there be an actual application of the water to some beneficial use or purpose * * * before the possessory title to the water right is acquired, but the continuation of the right is also conditioned upon the continuous use of the water. In other words, *the right is merely usufructuary*, and the right to the water lasts so long as it is in actual use and occupation, but no longer. The property in the water escapes and is out of his possession, and another man may appropriate it to his own use. The same is true also as to the water right itself * * * if the water claimed under the right is not used for a period of time sufficient to work an abandonment or forfeiture, the right ceases in the original appropriator, and the water claimed by him under it may be appropriated by others. But as long as the first appropriator holds possession of the right by the use

of the water claimed under it his possessory title is good, and exclusive in himself, as against all later comers, and the water right arises to the dignity of a distinct, exclusive usufructuary estate." (p. 1319).

May irrigate lands irrespective of location:

"Contrary to the rule of riparian rights at common law, where the right to the use of the water is dependent upon the ownership of the land adjoining which or through which the stream flows, a *water right based upon the doctrine of appropriation in the Western states does not depend upon the legal title, nor, in fact, upon any title to or the possession of lands* on the streams or other bodies of water, or elsewhere. But a water right is simply an exclusive possessory right, acquired by the diversion of the waters of a stream in a lawful manner, and the application to some beneficial use or purpose. * * * A valid appropriation may be made for the irrigation of lands, or for any other beneficial use, not situated upon or near the stream from which the water is taken. The very object of the appropriation may be to conduct the water from the stream through a ditch or canal, across the intervening lands, to irrigate a tract of land which the appropriator possesses far from the natural stream. * * * In other words, the *universal rule* is that a water right, or the right to the use of the water, under the doctrine of appropriation, is not in any way dependent upon the *locus* of its application to the beneficial use designed." (p. 1323).

It is a property right:

“The distinct, exclusive, usufructuary estate acquired by an appropriator to the use of water, by its lawful appropriation, is property of the highest order, and oftentimes of the highest value.” (p. 1326).

It is an incorporeal hereditament:

“A water right is descendible by inheritance; and, being neither tangible nor visible, it is an incorporeal hereditament.” (p. 1333).

And the first appropriator may take all the water of the stream:

“the first appropriator on a certain stream is entitled, by virtue of his prior right, to the use and enjoyment of the water to the full extent of his original appropriation, even when this includes all of the water of the stream, and this right continues so long as he applies all of the water appropriated to some beneficial use or purpose. * * *

The appropriator can not exceed the amount of water covered by his appropriation and thus cut out the rights of others.” (p. 1357 and many cases cited).

And the usufructuary property right may be taken under eminent domain for other and preferred public uses.

(Chapter 55, pp. 1900-1976 incl.)

Kinney on Irrigation & Water Rights,
2nd Ed. Vols. I and II at pages
above cited.

We have quoted copiously from the above authors to avoid elaborate citation to the numerous decisions of the courts, which will be found in the foot notes to the various portions of the text quoted, and all of which announce and affirm the principles above set forth.

Both Colorado and Wyoming recognize the usufructuary right of the appropriator as a private property right in the waters held by the state in its sovereign capacity.

The late Justice King thus tersely defined a water right under the Colorado law :

“In determining this question we have to consider the peculiar nature of the property designated a ‘water-right,’ and the title thereto, as distinguished from land. This ‘right is said to be intangible and incorporeal.’ The ultimate title or ownership of the water of the natural streams of this state is, by the constitution, vested in the public, but dedicated to the use of the people, subject to appropriation. * * * The right is usufructuary. There is no property in the corpus of the water so long as flowing naturally. There is no property in the channel of the stream, and the water-right is distinct from the right to the ditch, canal or other structure in which the water is conveyed. The original right and title is secured by appropriation.”

Monte Vista Canal Co. vs. Centennial Irr. D. Co., 22 Colo. App. 364, 368.

See Art. XVI, Sec 5, Colorado Constitution (*supra*).

Wyoming, by statute, thus defines the usufructuary private property right of the appropriator and its relation to the sovereign right of the state:

“A water right is *a right to use the water of the state*, when such use has been acquired by the beneficial application of water under the laws of the state relating thereto, and in conformity with the rules and regulations dependent thereon. Beneficial use shall be the basis, the measure and limit of the right to use water at all times, not exceeding in any case, the statutory limit of volume. *Water being always the property of the state*, rights to its use shall attach to the land for irrigation, or to such purpose or object for which acquired in accordance with the beneficial use made and for which the right receives public recognition, under the law and administration provided thereby.”

Wyo. Comp. Stat. (1910) Ch. 58, Sec. 724, p. 247.

See Wyo. Const. Art. VIII, Sec. 1 to 5 incl. *supra*.

Farm Inv. Co. vs. Carpenter, 9 Wyo. 110.

Without further citation of authorities, we think sufficient appears to define the character of the property rights of the water user under both the riparian and appropriation doctrines.

Rights acquired under either system are usufructuary private property interests of the individual citizens (the land owner or appropriator) under the control of the state and at all times inferior and subordinate to the greater, the sovereign right of

the state. Such rights being mere private property, the law thereof is law of private property and cannot be taken as defining the greater rights of the states within which such private usufructuary rights of citizens are acquired, enjoyed, regulated and controlled, or by which such private rights may be taken away at any time under the power of eminent domain. Their interpretation involves consideration of their relations to one another or to the sovereign state under which they are acquired and enjoyed, or by which they may be taken away, and rules which the state may fix for regulation of these private property rights of its citizens cannot have extra-territorial force, either in behalf of or against the state but are purely local law and subject to change or repeal.

Story Confl. Laws, Ch. 2, pp. 19-34;

Pennoyer vs. Neff, 95 U. S. 714, 720-22.

And this local private law is recognized and applied *within* the respective states by the Federal as well as the local courts.

Hardin vs. Jordan, 140, U. S. 371.

Whittaker vs. McBride, 197 U. S. 510.

Boquillas Cattle Co. vs. Curtis, 213
U. S. 339.

Of the effect of attempting to apply this local law to controversies between sovereign states, in no two of which the rules and laws are identical, we shall treat at length in the next portion of this brief.

VI. PRINCIPLES OF PRIOR APPROPRIATION CANNOT APPLY WITHOUT REGARD TO STATE BOUNDARIES.

We now come to a discussion of the vital question involved and thus stated in the order for re-argument:

“Whether the rights asserted are to be tested and determined solely by the application of the principles of prior appropriation, without regard to state boundaries, or whether, on the contrary, the general principles of prior appropriation are subject to be restricted or their operation limited in this case by state lines.”

All that has been previously stated herein, is, after all, but preliminary and a premise to the discussion to follow.

In the foregoing portion of the brief we have, under separate subdivisions, treated of the fundamental rules of law involved in the following manner.

At the outset we observed that this case is not one between property owners in different states, each claiming under the law of his respective commonwealth, but rather a controversy between two sovereign states, each asserting and standing upon its extreme rights, and necessarily inclusive not alone of the property owners but as well of all the citizens of each state thereof, and involving states of equal magnitude in the Union and their future as well as their present welfare. (Pages 11 to 16.)

We next considered the law of independent nations, as regards their jurisdiction over the citizens and also the waters and all natural resources thereof, and observed that each independent nation has full, absolute and exclusive jurisdiction over all such within her boundaries. (Pages 16 to 21.)

We then observed that each of the original thirteen states was, at the time of the formation of the Union, a free and independent nation; that upon the adoption of the Constitution and thereafter,

each of such original states continued to retain all of the attributes, powers and jurisdiction of independent nations, save for those powers voluntarily surrendered to the United States by the Constitution, and that as such continuing free and independent states (in so far as here to be considered), each retained all its original powers and jurisdiction over all the waters within its boundaries, save as voluntarily surrendered to the United States for regulation of navigation. (Pages 21 to 25.)

Each new state admitted into the Union is possessed of all the powers and jurisdiction over the waters within its borders "no greater and no less" than possessed by the original thirteen states. (Pages 26 to 30.)

We then devoted many pages of this brief to a discussion and review principally of the decisions of this court, from the earliest times in our national history down to the present year, wherein we found that, with one accord, the same independent and exclusive jurisdiction over waters was recognized in the new states as had always obtained, even before the Constitution, in the original thirteen states (save for federal control of navigation); that exclusive jurisdiction extended over all such waters for navigation (with paramount control in Congress when asserted), fisheries (those that swim or those which grow upon the beds of waters), power, municipal supply, rights of and use by bank owners, irrigation (both for riparian and non-riparian lands), and for all other uses and purposes beneficial alike to the state and its citizens; that in the exercise of this power and jurisdiction, the local laws and regulations, varying necessarily in every state, have been controlled by and founded upon local conditions and necessities; and that in construing or applying the

laws governing any controversy, the United States and its courts have always followed and applied the local law of the state within which the controversy arose. Also that no powers were delegated to Congress to establish or determine laws or rules for control of waters within either the old or the new states and that even when legislating with reference to the public lands Congress has refrained from attempting to establish any laws which might embarrass the new states or infringe upon their powers and has specifically left all jurisdiction and control over waters to the states and territories. (Pages 30 to 118.)

We quoted the Acts of Congress relative to waters on public lands, and the decisions construing the same, all recognizing the inherent sovereign jurisdiction of the states. (Pages 119 to 148.)

The Constitutions, laws and decisions of both Colorado and Wyoming were cited and reviewed and we there found that each state had not only made full claim of state title, power and jurisdiction to all the waters within its boundaries (which claim had been ratified, approved and enacted as law by Congress in the Enabling acts), but, also, that each state had forbidden the use and benefit of its waters to neighboring states or the citizens thereof. (Pages 148 to 175.)

And lastly we fully discussed the doctrine of riparian rights as well as that of prior appropriation and the application and construction thereof in the several states and in Colorado and Wyoming, and there observed that both are but rules of local, private law obtaining in different degrees, either alone or in combination, in different states of the Union (in no two of which is the application of either doctrine

identical), for determining the property rights, interests and titles of citizens of the respective states, to a mere *usufructuary* property in water, in their relations with one another on the one hand and with the state on the other. Also that each of the rules is one of exclusion of one class of citizens of the state for the benefit of another limited class thereof and that both are, in truth, rules of inequality from the standpoint of the state as a whole and are but private, usufructuary property law and not in any sense rules of public, interstate or international law. (Pages 175 to 215.)

We have considered at length these various phases of the law of waters and the jurisdiction of the states in order that we may the more intelligently express our views upon the question now presented, believing that by so doing we may make plain the reason for the rules for which we contend, which otherwise might stand as mere conclusions without adequate reason or premise.

**(1) RULES OF PRIVATE PROPERTY INAPPLICABLE TO
CONTROVERSIES BETWEEN STATES.**

With all due respect to the learned presentation of rules of the law of private usufructuary property, by counsel for Wyoming, which they contend should govern in controversies between states (not individuals), we cannot concur in their conclusions either in the ultimate rule to be applied between states or that the authorities which they cite are applicable to controversies between states, where the individual citizen and his property becomes merged into and disappears from view within the greater rights of the sovereign, the state, including not alone him and his private property interests, but as well all the people and all the property and natural re-

sources (private and public), within the boundaries of the commonwealth; and concerning not so much the past and the present, as the future of the state and its people; beside which greater rights the citizen and his limited usufructuary property sink into insignificance. And we contend that rules which, for the present, might apply between one water user and his neighbor, or even him and his state, are wholly inadequate to procure for his state and a neighboring state, a just settlement and adjustment of the rights of each to the enjoyment unimpaired of their natural resources not alone for the present but as well for all future time.

We respectfully contend that the rule of priority of appropriation (a mere rule of private usufructuary right) cannot apply in the settlement of controversies between sovereign states over the waters of rivers common to both.

States have rights irrespective of and greater than the usufructuary rights of private owners, in their natural resources of which, all agree, water is one of the most and, in the arid states, the most valuable. A controversy of this nature rises therefore above a controversy between private property owners in neighboring states and must be treated upon those broader principles which apply between nations regardless, in large measure, of the private property rights of the citizens of either. As well sail by this court in the opinion by Mr. Justice Holmes in *Georgia vs. Tennessee Copper Co.*, notwithstanding vigorous dissent:

“The case has been argued largely as if it were one between two private parties; but it is not. The very elements that would be relied upon in a suit between fellow-citi-

zens as a ground for equitable relief are wanting here. The state owns very little of the territory alleged to be affected, and the damage to it capable of estimate in money, possibly at least, is small. This is a suit by a state for an injury to it in its capacity of quasi-sovereign. In that capacity the state has an interest independent of and behind the titles of its citizens, in all the earth and air within its domain. It has the last word as to whether its mountains shall be stripped of their forests and its inhabitants shall breathe pure air. It might have to pay individuals before it could utter that word, but with it remains the final power. The alleged damage to the state as a private owner is merely a make-weight, and we may lay on one side the dispute as to whether the destruction of forests has led to the gulying of its roads. * * *

Some peculiarities necessarily mark a suit of this kind. If the state has a case at all, it is somewhat more certainly entitled to specific relief than a private party might be. It is not lightly to be required to give up quasi-sovereign rights for pay; and, apart from the difficulty of valuing such rights in money, if that be its choice it may insist that an infraction of them shall be stopped.

The states, by entering the Union, did not sink to the position of private owners, subject to one system of private law. This court has not quite the same freedom to balance the harm that will be done by an injunction against that of which the plaintiff

complains, that it would have in deciding between two subjects of a single political power. * * *

It is a fair and reasonable demand on the part of a sovereign that the air over its territory should not be polluted on a great scale by sulphurous acid gas, that the forests on its mountains, be they better or worse, and whatever domestic destruction they have suffered, should not be further destroyed or threatened by the act of persons beyond its control, that the crops and orchards on its hills should not be endangered from the same source. If any such demand is to be enforced this must be notwithstanding the hesitation that we might feel if the suit were between private parties, and the doubt whether, for the injuries which they might be suffering to their property, they should not be left to an action at law.* * *

Whether Georgia, by insisting upon this claim, is doing more harm than good to her own citizens, is for her to determine. The possible disaster to those outside the state must be accepted as a consequence of her standing upon her extreme rights."

Georgia vs. Tennessee Copper Co., 206
U. S. 230, 237.

This is a case even stronger than the foregoing. Here not only is one state (Wyoming), "Standing upon her extreme rights," but Colorado likewise asserts "it is the right of the defendant commonwealth to dispose of the waters of that portion of said stream" (the Laramie River), "lying within

the State of Colorado, without let or hinderance by the complainant or its citizens; and defendant avers that the *defendant commonwealth can so dispose of the waters of said stream regardless of the prejudice that it may work to the complainant or its citizens within the State of Wyoming, and need give no reason for its will.*"

Answer of State of Colo. Par. 1, Vol. 1, p. 31 of Record.

As well observed by Mr. Justice Brewer in *Kansas vs. Colorado*, where, as here, there were several defendant Colorado corporations:

"While several of the defendant corporations have answered, it is unnecessary to specially consider their defenses, for, if the action against Colorado fails, it fails also as against them."

Kansas vs. Colorado, 206 U. S. 46, 85.

Here the rights of the private citizens (or local corporations) of the plaintiff state on the one hand or those of citizens of Colorado on the other hand, sink into comparative insignificance and are included within the greater right of the states, and likewise, rules of local law in either Wyoming or Colorado, whereby the relative rights of the citizens of either (priority of appropriation with differing methods of acquisition, administration and enforcement) are determined, degulated and protected, have no place in determining the rights of the states for "the state has an interest independent of and behind the title of its its citizens, in *all* the earth and air within its damain" (*Georgia vs. Tennessee Copper Co., supra*).

In *Kansas vs. Colorado*, Mr. Justice Brewer further points out the essential difference between the private property rights of the citizen (in that case riparian rights), and the greater rights of the state in the following language:

“It is the State of Kansas which involves the action of this court, charging that through the action of Colorado a large portion of its territory is threatened with disaster. In this respect it is in no manner evading the provisions of the Eleventh Amendment to the Federal Constitution. *It is not acting directly and solely for the benefit of any individual citizen to protect his riparian rights. Beyond its property rights it has an interest as a state in this large tract of land bordering on the Arkansas River.* Its prosperity affects the general welfare of the state. *The controversy rises, therefore, above a mere question of local private right and involves a matter of state interest, and must be considered from that standpoint.*” (*Georgia vs. Tennessee Copper Co.* 206 U. S. 230).

Kansas vs. Colorado, 206 U. S. 46, 99.

We have previously observed that riparian rights (likewise rights by appropriation), are but private property rights of individuals within the greater right of the sovereign—the state. We further observed that Colorado, by her constitution and the decisions of her courts and statutes, had always stood upon her extreme rights to the fullest degree and had denied the right of the use of her waters to citizens of other states under rules of appropriation or otherwise (*S. L.* 1917, p. 539; *Stockman vs. Leddy*, 55 Colo. 24, 28).

New Jersey took the same position in 1905 (P. L. 1905, p. 461; 70 N. J. Eq. 698), and denied the right of her citizens or others to withdraw the waters from her domain, under theory of private property therein by riparian rights or otherwise. Her assertion of her full power was questioned by those who assumed to act under authority of contracts with riparian owners, some of which were executed before and some after the enactment of the prohibitory statute (see 70 N. J. Eq. 526), but her right to preserve her natural resources, irrespective of the assent or dissent of the private rights of her citizens was upheld by her courts (70 N. J. Eq. 525; Id. 695). Her action and decree having been brought before this court for review, her action was upheld and in the opinion by Mr. Justice Holmes it is said:

“The courts below assumed or decided and we shall assume that the defendant represents the rights of a riparian proprietor, and on the other hand, that it represents no special chartered powers that give it greater rights than those. * * * But we prefer to put the authority which cannot be denied to the state upon a broader ground than that which was emphasized below, since in our opinion it is independent of the more or less attenuated residuum of title that the state may be said to possess.

All rights tend to declare themselves absolute to their logical extreme. Yet all in fact are limited by the neighborhood of principles of policy which are other than those on which the particular right is founded, and which become strong enough to hold their own when a certain point is reached.

The limits set to property by other public interests present themselves as a branch of what is called the police power of the state. The boundary at which the conflicting interests balance cannot be determined by any general formula in advance, but points in the line, or helping to establish it, are fixed by decisions that this or that concrete case falls on the nearer or farther side. * * *

It sometimes is difficult to fix boundary stones between the private right of property and the police power when, as in the case at bar, we know of few decisions that are very much in point. But it is recognized that the state as quasi-sovereign and representative of the interests of the public has a standing in court to protect the atmosphere, the water and the forests within its territory, irrespective of the assent or dissent of the private owners of the land most immediately concerned. *Kansas vs. Colorado*, 185 U. S. 125, 141, 142; S. C., 206 U. S. 46, 99; *Georgia vs. Tennessee Copper Co.*, 206 U. S. 230, 238. What it may protect by suit in this court from interference in the name of property outside of the state's jurisdiction, one would think that it could protect by statute from interference in the same name within. On this principle of public interest and the police power, and not merely as the inheritor of a royal prerogative, the state may make laws for the preservation of game, which seems a stronger case. (*Geer vs. Connecticut*, 161 U. S. 519, 534).

* * * But we agree with the New Jersey courts, and think it quite beyond any rational view of riparian rights that an agreement, of no matter what private owners, could sanction the diversion of an important stream outside the boundaries of the state in which it flows. The private right to appropriate is subject not only to the rights of lower owners, but to the initial limitation that it may substantially diminish one of the great foundations of public welfare and health.

We are of opinion, further, that the constitutional power of the state to insist that its natural advantages shall remain unimpaired by its citizens is not dependent upon any nice estimate of the extent of present use or speculation as to future needs. The legal conception of the necessary is apt to be confined to somewhat rudimentary wants, and there are benefits from a great river that might escape a lawyer's view. But the state is not required to submit even to an aesthetic analysis. Any analysis may be inadequate. *It finds itself in possession of what all admit to be a great public good, and what it has it may keep and give no one a reason for its will.*"

Hudson Water Co. vs. McCarter, 209
U. S. 349, 354-7.

While, as observed in a previous portion of this brief, Mr. Justice Holmes premised his remarks with "The problems of irrigation have no place here" (p. 356), nevertheless the sovereign jurisdiction of New Jersey over the waters within her borders would appear to be no greater and no less than that

of any other state of the Union admitted on an equality "in all respects whatever," and the rights there affected (riparian rights), were after all mere usufructuary titles of the same and no greater or less dignity than are the usufructuary rights of the prior appropriator (See previous discussion this brief, pages 175 to 214.)

Kinney on Irrigation and Water Rights
(2nd Ed), p. 2225.

Walbridge vs. Robinson, 22 Idaho, 240.

Biennial Rep. Atty. Genl. Wyo.
(1915-16), p. 75.

That private property rights of individuals in waters of interstate streams (by appropriation or common law) cannot determine the rights of the states in controversies one with another is clearly discussed by Mr. Justice Holmes in *Richey Land & Cattle Co. vs. Miller & Lux*, involving private rights of water users in Nevada (where the appropriation doctrine obtains) and users in California (where both the common law of riparian rights and rights by appropriation are recognized). He there likened the usufructuary rights of water users to parcels of land:

"When a right is asserted in favor of land in one jurisdiction over land in another, different principles are involved from those that suffice when both parcels are subject to the same law. When such rights have been recognized it has been on the ground of an assumed 'concurrence between the two states, the one, so to speak, offering the right, the other permitting it to be accepted. *Manville Co. vs. Worcester*, 138 Massachusetts, 89.' *Missouri vs. Illi-*

nois, 200 U. S. 496, 521. But still there are two parcels of land subject to different systems of law; and although the rights and liabilities in respect of each may require a consideration of the other if they are to be dealt with completely, the fact remains that each may be regulated by the state where the land lies according to its sovereign will. *Kansas vs. Colorado*, 206 U. S. 46, 93. If then the courts of one state are about to deal with one parcel they should not be indirectly interfered with by a foreign court that has no power to control the use of the *res*. It is said to be a general principle that apart from some privity, such as is created by contract, trust, or fraud, courts of equity recognize the impropriety of using their power over the person to achieve such a result. *Northern Indiana R. R. Co. vs. Michigan Central R. R. Co.*, 15 How. 233, 242-244; *Carpenter vs. Strange*, 141 U. S. 87; *Norris vs. Chambers*, 29 Beav. 246, 253, 254; S. C., 3 De G., F. & J., 583, 584. It is conceivable, to be sure, that the decisions of this court may determine that the states have rights as against each other *in invitum* in streams that flow through the land of both. *Kansas vs. Colorado*, 206 U. S. 46, 84; *Missouri vs. Illinois*, 200 U. S. 496, 519, 520. These rights may vary according to the system of law required by natural conditions.

* * *

But whatever this court may decide, if a private owner should derive advantage from such a decision it would not be in his own right, but by reason of and subordinate to the rights of his state, and

those rights, the petitioner insists, can, or at least should, be determined only in a suit brought by the state itself."

Rickey Land & Cattle Co. vs. Miller & Lux, 218 U. S. 258, 260, 261.

The above decision was announced Nov. 7, 1910. Evidently having in mind, *inter alia*, this decision and the rule there discussed of "concurrence between the two states, the one, so to speak, offering the right, the other permitting it to be accepted," and that the relation of the right within the two jurisdictions "depends as well upon the permission of the laws of Nevada as upon the compulsion of the laws of California" and "the acts necessary to enforce it must be done in California and require the assent of that state" etc., and further the language "if California recognizes *private rights* that cross the border line"—the California legislature in the next session, and immediately following this decision, passed an act almost identical in its terms with the New Jersey act construed by this court in Hudson Water Co. vs. McCarter, *supra*, absolutely prohibiting the diversion of its waters for use in other states, denying the recognition of rights that cross the border line of the states and negating the presumption of one state offering and the other accepting the right.

L. Cal. 1911, Chap. 104, p. 271 (Approved March 3, 1911).

That rights of appropriators are but private rights and cannot prevail in a suit such as this (between states) is further recognized by this court in *Bean vs. Morris*, wherein Mr. Justice Holmes said:

“We pass at once to the question of private water rights as between users in different states.

We know no reason to doubt, and we assume, that, subject to such rights as the lower state might be decided by this court to have, and to vested private rights, if any, protected by the Constitution, the State of Montana has full legislative power over Sage Creek while it flows within that state. *Kansas vs. Colorado*, 206 U. S. 46, 93-95. Therefore, subject to the same qualifications, we assume that the concurrence of the laws of Montana with those of Wyoming is necessary to create easements, or such private rights and obligations as are in dispute, across their common boundary line. *Missouri vs. Illinois*, 200 U. S. 496, 521; *Rickey Land & Cattle Co. vs. Miller & Lux*, 218 U. S. 258, 260. But with regard to such rights as came into question in the older states, we believe that it always was assumed, in the absence of legislation to the contrary, that the states were willing to ignore boundaries, and allowed the same rights to be acquired from outside the state that could be acquired from within.”

Manville Co. vs. Worcester, 13 Mass. 89, and several other cases are then cited and after observing that the doctrine of appropriation prevailed in both Montana and Wyoming before either were admitted to the Union and that the presumption is that the same system still prevailed, “save as necessarily implied or expressed” he closes the discussion of private rights of individuals in different states, as follows:

“It follows from what we have said that it is unnecessary to consider what limits there may be to the powers of an upper state, if it should seek to do all that it could. The grounds upon which such limits would stand are referred to in *Rickey Land & Cattle Co. vs. Miller & Lux*, 218 U. S. 258, 261. So it is unnecessary to consider whether *Morris* is not protected by the Constitution; for it seems superfluous to fall back upon the citadel until some attack drives him to that retreat.”

Bean vs. Morris, 221 U. S. 485, 486, 488.

We pause to observe, that in this case (one between states and not private property owners) each state seeks “to do all that it could.” One state asserts its full claims, these the other denies and in turn sets up full claim and says “it need give no reason for its will.” It accordingly appears that any advantage to be gained by Wyoming from the language of this decision is swept aside by the character of this suit, where the rights must be determined under rules above announced as prevailing between states, not individuals.

And here again we note that Colorado since admission to the Union, by her constitution, the decisions of her courts and her statutes has steadfastly refused to recognize any rights, of individuals or states, without her borders.

Colo. Const. Art. XVI, Sec. 5.

Lamson vs. Vailes, 27 Colo. 201.

Stockman vs. Leddy, 55 Colo. 24.

S. L. Colo. 1917, Chap. 151, p. 539.

Kansas vs. Colo. 206 U. S. 46.

In the foregoing decision this court observes:

“So it is unnecessary to consider whether Morris is not protected by the Constitution” (p. 488) referring, as we are advised, to the claim that this right had vested before admission of Montana to the Union with full sovereign powers of a state. We wish to note that in the pending case Wyoming does not and cannot make any such claim by reason of the fact that according to her evidence, with exception of one small appropriation, *no use whatever* had been made of the waters of the Laramie River *prior to the admission of Colorado to the Union, Aug. 1, 1876*. Substantially all of the Wyoming development has occurred subsequent to that date, and a large part subsequent to the Colorado project here complained of. (See Def. Orig. Brief, Vol. II, p. 228).

Decree Dist. Ct. Laramie Co., Pl. Ex.
N; also, Supp. Brief of Wyoming,
p. 24.

It is therefore unnecessary to consider what difference, if any, would exist if Wyoming could claim constitutional protection of rights which had vested before Aug. 1, 1876, and the field is cleared of any claim of private rights under the Constitution and simplified to an issue of rights between sovereign states.

Even were we to assume, for argument's sake, that Colorado had not (since 1876) expressly denied recognition of all extra-territorial claims upon the streams rising and flowing within her borders, the fact still remains that there is no concurrence of laws upon which to base a claim of presumption of interstate servitudes between individual citizens of the two states, for, while both Wyoming and Colorado have fundamentally adopted the doctrine of ap-

appropriation for determination of private usufructuary rights *within their respective borders*, yet even by constitutional provisions, as well as by statutes and court decisions, there is irreconcilable conflict, both in the preference of uses one over another, the extent to which a right attaches at all, the limit or lack of limit of the use within any one class, the means and method of initiating the right as well as the subsequent fixing and determination of the same, to omit from discussion the many conflicting rules and methods of distribution. The most that can be said is that both assert full state ownership and control over the waters within their borders and abolish riparian rights as a rule or basis of usufructuary private rights. Beyond this point the systems diverge. But we need not further consider this topic for no concurrence of laws is recognized by either state, even as to private property rights. (See *supra*, pages 149 to 175.)

We shall treat further of this subject in the pages to follow but for the moment shall consider the authorities cited by counsel for Wyoming dealing with this phase of the question.

(a) Plaintiff's Authorities—Not in Point.

Plaintiff in its supplemental brief, pp. 153-156, cites a number of authorities upon the "Effect of state lines upon right of Appropriators," and state: "The question of the effect of state lines upon the rights of appropriators in different states has been before the courts of the arid region in a number of states and so far as we have been able to find has always been decided in the same way. The universal holding is that priority of appropriation gives priority of right on interstate streams the same as on

streams wholly within one state." (Pltff. Supp. Brief p. 153).

The statement of plaintiff's position reveals its fundamental weakness. This action is one *between the sovereign states* of Wyoming and Colorado, each asserting its fullest sovereign claims to the waters of the Laramie river, and *not between mere individual citizens* of the respective states who claim appropriations under the laws of their states. Here we cannot presume a recognition of interstate servitudes because they are expressly denied by both states.

Plaintiff cites the cases of *Hoge vs. Eaton*, 135 Fed. 411, 414; *Taylor vs. Hulett*, 15 Ida. 265; *Conant vs. Deep Creek & Co.*, 23 Utah, 627; *Willey v. Decker*, 11 Wyo. 496, 533; *Howell vs. Johnson*, 89 Fed. 556; *Anderson vs. Bassman*, 140 Fed. 14; *Morris vs. Bean*, 123 Fed. 618; *Id.* 146 Fed. 423; *Bean vs. Morris*, 159 Fed. 651, 655; *Rickey Land & Cattle Co. vs. Miller & Lux*, 152 Fed. 11, 17; *Id.* 218 U. S. 258; *Bean vs. Morris*, 221 U. S. 485; and 3 Kinney on Irrigation (2nd Ed.) p. 2216 and relies upon these cases as authority for the statement above quoted and evidently intends that they shall be considered as authority for the rule that priority irrespective of state lines shall control sovereign states, and as determining the rights of the states in their sovereign capacity to the jurisdiction of the waters within their borders.

None of these cases are in point in this suit. Whatever the rights of the individual appropriators within each of the states may be, undoubtedly the states themselves have certain sovereign rights and powers irrespective of the private property rights of the citizens of either and in this suit, which is brought by Wyoming in her sovereign capacity against Colorado in its sovereign capacity, it is apparent that decisions dealing with the private prop-

erty rights of the citizens of each of the respective states can have no bearing in the settlement of this controversy which involves the greater rights of the states themselves. Whatever rights the citizens may possess are undoubtedly included within the greater right of the state and must stand or fall, not upon the private property right, but upon the greater right of the state.

Georgia vs. Tennessee Copper Co., 209

U. S. 230, 237;

Kansas v. Colorado, 206 U. S. 46, 99;

Hudson Water Co. v. McCarter, 209 U.

S. 349, 356.

Brief comment upon these cases cited by counsel is sufficient.

Hoge v. Eaton, (135 Fed. 411) involved a controversy between two private appropriators from Sand Creek, an interstate stream of Colorado and Wyoming. Neither of the states were parties to the suit. Whatever language Judge Hallett used therein is therefore at best a *dictum*. The case was decided before the decision in *Kansas v. Colorado*, *supra*, which overrules the language quoted in plaintiff's brief. In *Kansas vs. Colorado*, the government of the United States cited the case of *Hoge vs. Eaton*, and quoted the language here quoted by plaintiff in their brief, in support of the contention that Colorado does not exercise sovereign jurisdiction over the waters within its borders (Brief of U. S. on Final Hearing, page 191-3). It was in reply to the government's contention for national control of streams under the rule of prior appropriation irrespective of state lines that this Court, by Mr. Justice Brewer, made answer:

“But it is useless to pursue this inquiry further in this direction. It is enough for the purposes of this case that each state has full jurisdiction over the lands within its borders, including the beds of streams and their waters * * * It may determine for itself whether the common law rule in respect to riparian rights or that doctrine which obtains in the arid regions of the West of the appropriation of waters for purposes of irrigation shall control.”

Kansas v. Colorado, 206 U. S. 46, 93-4.

Taylor vs. Hulett, (15 Ida. 265) ; *Conant vs. Deep Creek & Co.* (23 Utah 627) ; and *Willey vs. Decker*, (11 Wyo. 496) ; were decisions of state Courts involving the determination of appropriations in one state for use in another where the court had jurisdiction of both the person and property and where neither state had then denied interstate servitudes. The Idaho and Utah cases proceeded upon the theory of comity between states as defined in *Carpenter v. Strange*, 141 U. S. 105. The Idaho Court pointed out however that it must act upon the person and not the property which might be situated in a different jurisdiction. In neither of these cases were the rights of the state in any way involved.

In the case of *Willey vs. Decker* (*supra*) it is specifically pointed out that the rights of individuals there in question had vested before either state was admitted to the Union and the Court was careful to say “We are not called upon in the case at bar to decide whether such an appropriation as the plaintiff’s * * * rely on can be lawfully made in this state under our constitution and present statutes; and we shall express no opinion on that matter”, and the

doctrines were applied upon the particular facts of the case:

“In the absence of contrary constitutional or statutory provisions”.

Willey v. Decker, 11 Wyo. 496, 511, 531.

We have already noted that the Wyoming Court in a recent case has practically reversed its decision in *Willey vs. Decker*, by denying, even where it had jurisdiction of both the property and the person, the right of eminent domain for construction of a ditch to head in Wyoming and irrigate lands in Colorado, thereby preventing the diversion in Wyoming for use in Colorado, upon a stream common to both.

Grover Irr. Co. v. Lovella Ditch Co., 21 Wyo. 204, 240, 256;

See also Biennial Rep. Atty. Gen'l., Wyoming (1915-16), p. 75.

The cases of *Howell vs. Johnson* (89 Fed. 556.) and *Anderson vs. Bassman*, (140 Fed. 14) were between private parties and the states wherein the various appropriations obtained under local law were in no manner involved. Both these cases were cited and urged as authority for the doctrine of priority irrespective of state lines by the United States in its brief in the case of *Kansas vs. Colorado* (Brief of U. S. on Final Hearing, 153, 178, 191) and the ruling of this Court, above quoted, was the answer to the contention here made.

It is interesting to note however, that in *Anderson vs. Bassman* the waters were not apportioned on the rule of appropriation irrespective of state laws:

“The right of each is to have a reasonable apportionment of the water of the stream during the season of the year when

it is scarce * * * the only method that appears to provide a just and equitable division is some fair and appropriate division in time by which the complainants and defendants shall have the use of the water alternately during the dry season."

Anderson v. Bassman, 140 Fed. 14, 29.

Morris vs. Bean, (123 Fed. 618); *Id.* (146 Fed. 423); and *Bean vs. Morris* (159 Fed. 651) have been considered by this Court in *Bean vs. Morris*, 221 U. S. 485, wherein Mr. Justice Holmes said:

"We know no reason to doubt, and we assume, that, subject to such rights as the lower state may be decided by this Court to have and to vested private rights, if any, protected by the constitution, the state of Montana has full legislative power over Sage Creek while it flows within that state."

Bean v. Morris, 221 U. S. 485, 486.

In the above cases the private property rights of individuals were alone involved and in neither thereof were the states made parties. There was no showing of express denial by Constitution, laws or Court decisions (as is here the case) of refusal to recognize extra-territorial rights.

Rickey Land & Cattle Co. vs. Miller & Lux (152 Fed. 11) was reviewed by this Court in 218 U. S. 258. In as much as counsel quotes the language of this Court pointing out that in such a suit as was there presented, the rights of the state, as such, were not involved, and what such rights would be if properly asserted, we shall make no further quotation, and the same might have been said of the decision in the case of *Bean vs. Morris*, 221 U. S. 485, quoted on Page 162-3 of the brief of counsel.

Counsel also cites *Farm Investment Co. vs. Carpenter*, (9 Wyo. 110) but we are unable to concur with the conclusion that the decision in that case is authority for their contention. On the contrary that decision is authority against plaintiff:

“we entertain no doubt of the power of the people in their organic law, when existing vested rights are not unconstitutionally interfered with, to declare the waters of all natural streams, and other natural bodies of water, to be the property of the public, or of the state. Nor do we doubt that the legislature may make a like declaration, when, in that particular, unrestrained by the constitution.

If any consent of the general government was primarily requisite to the inception of the rule of prior appropriation, that consent is to be found in several enactments by Congress.

The title of the appropriator fastens, not upon the water while flowing along its natural channel, but to the use of a limited amount thereof for beneficial purposes, in pursuance of an appropriation lawfully made and continued. The appropriation is made, in the first place, upon the basis of public ownership of the water, and is protected instead of impaired by the constitutional declaration.”

Farm Investment Co. v. Carpenter, 9 Wyo. 110, 137, 139.

The citation from Kinney on Irrigation, Vol. 3, Sec. 1225, is of little avail for the reason that it is but a summary of the law announced in the decisions

cited by counsel,—all of which, as already noted, do not relate to the rights of the states themselves. A reference to the author's foot note, however; calls attention to two cases holding contrary to the language quoted.

In *Lamson v. Vailes*, Chief Justice Campbell announced a doctrine in direct contrast to that announced in the cases cited by counsel for plaintiff. He denied to New Mexico the benefit of the laws of Colorado relative to adjudication of priorities. He said, in part:

“We cannot presume that the general assembly intended to enact a law to operate beyond the territorial limits of the state. The distinction sought to be made by appellants, that the point of diversion of the ditch is the sole factor determining the jurisdiction of the Court, is not good. * * * It is not to be supposed that the state was legislating for the reclamation, or irrigation, of lands beyond its boundaries, or making provisions by the way of police regulations (which we have held these statutes, in some measure, to be) over a territory beyond its jurisdiction.”

Lamson v. Vailes, 27 Colo. 201, 203.

In *Turley v. Furnam*, (N. M.) Justice McFie adopted the doctrine announced by Chief Justice Campbell in *Lamson v. Vailes*, holding that New Mexico had no jurisdiction to determine the rights of an appropriator whose diversion occurred in Colorado for irrigation of lands in New Mexico.

Turley v. Furnam, 16 N. M. 253, 262.

(b) Conclusion.

Stripped to the fundamental, it is the natural resource, the river and its waters, which we must here consider, irrespective of such usufructuary rights as the state may from time to time permit to its citizens. When the state entered the union, the river and its waters were a part of the domain set apart for its future growth and development. The few years that have since elapsed are but an instant as compared with the perpetuity of the commonwealth. The state now requires the use of its natural resources and it is to be presumed that the need will increase in the future and must be satisfied in so far as geographical conditions and physical obstacles shall permit. The waters of its streams are the most valued resources of the state. To them even more than to its lands, it must look for its future development, prosperity and general welfare. Any rights to the use of the waters which the state may have granted its citizens in the past, or may in the future permit them to acquire, are at best but temporary. Whatever rules it may have announced for the regulation, control and limitation of these rights are but of present not future importance. The possessory right in the stream had its origin in use and the right terminates whenever the individual ceases to make the use. The usufructuary right of the citizen is ever subject to the uncertainties and vicissitudes of human affairs while the title of the state is the same in the end as it was when it was admitted to the union. Whatever usufructuary rights the state may have permitted in its waters may be by it resumed, by exercise of its sovereign power of eminent domain, whenever it may so decree and it may resume to itself its first and former estate for disposal

and use according to its sovereign will and in such manner as shall best be adapted to its growing necessities, irrespective of the wishes or claims of the individual appropriator. Whatever right the state may now grant to the citizen it may at any time take away but the natural resource it may keep and "give no one a reason for its will." The individual and his usufructuary rights may vest today only to be abandoned or condemned tomorrow to give way to other uses demanded by new necessities. For while individuals may come and go the state and its jurisdiction are as enduring as the stream itself and to paraphrase the thought of the poet:—"Men may come and men may go, but the state goes on forever."

"But the words of the Constitution would be a narrow ground upon which to construct and apply to the relation between states the same system of municipal law in all its details that would be applied by the individuals".

Missouri v. Illinois, 206 U. S. 496, 520.

It would thus appear that laws of the usufruct in waters of the stream, by the individual in his relations to other users or his state, under whatever doctrine recognized (riparian or appropriation) have no place in the interpretation of laws which determine the rights of the state to not only use but keep its natural resource, the waters of its streams. The temporary claims of the individual do not rise above those of his state, and, it would appear, should not control the destiny of his commonwealth in its relation with other states.

(2) APPROPRIATION DOCTRINE VIOLATES EQUAL RIGHTS OF STATES.

In our previous discussion of the doctrine of priority of appropriations we observed that, like the rule of riparian rights, it is exclusive in its character, and the appropriator, if his needs so require, may take the entire flow of the stream.

(See pp. 190 to 214.)

In this conclusion counsel for Wyoming concur.

Sup. Brief of Plaintiff, pp. 134-140.

We observed that, under the doctrine of riparian rights, while the usufructuary rights of the riparian owners were in all respects equal, i. e., that each had an equal right to use the waters of the stream touched by his lands, nevertheless, as regards the property of all the citizens of the state, the doctrine is exclusive in that it grants to one class the sole use of the waters of the stream, by reason of accident of physical location of the riparian or bank lands, to the utter exclusion and denial of benefits to all other lands (nonriparian). In fact, a more wasteful monopoly in waters could hardly be conceived than that granted this favored class, who are thus privileged to utterly deny the greater body of the lands of the state all use of the waters of the stream while the favored few, whose lands happen to touch the stream, use the same as it flows along to finally waste into the sea. Hence, while the rights of riparian owners are equal one with another in their common use of the stream, they are, as a class, unequal and exclusive as regards the remainder of the lands of the state.

So, too, are private usufructuary rights by ap-

appropriation exclusive and unequal. The first appropriator may take the waters of the stream to the extent of his necessary uses, with the qualifications that he must not enlarge his demands on the stream after the rights of juniors have attached, who are entitled to have the conditions remain as they were when they went upon the stream (*Vogel v. Minnesota Canal Co.* 47 Colo. 534, 541). If his actual, established needs so require, the first appropriator may take the entire flow of the stream to the exclusion of all juniors as well as all riparian and non-riparian owners. But the rule, though most exclusive, has the saving feature that no water goes wasting to the sea, and, as the rights of the first appropriator are limited fundamentally to beneficial use, none may be needlessly wasted, for if he has no actual need for the water he has no right to divert it and it must pass to juniors requiring its use.

While these characteristics of the two doctrines for acquisition and regulation of private usufructuary rights, are the established rules, with local modifications, in the various states of the union, it is apparent that either of them is fundamentally inapplicable to the regulation of rights between states, each of which stands upon an equality with each of the others "in all respects whatever", to the same degree as independent nations are to be regarded as equal in dignity and sovereign power.

Each state depends for its existence primarily upon its natural resources and that too irrespective of the rights or property interests of its citizens.

Missouri v. Illinois, 180 U. S. 208, Id.
200 U. S. 258.

Kansas v. Colorado, 206 U. S. 46.

Georgia v. Tennessee Copper Co., 206
U. S. 230.

Hudson County Water Co. v. McCarter
209 U. S. 341.

Water is one of the great natural resources of every state and in the arid states is frequently the most valuable. Upon the water, the state and her people must depend for all time for life, health and prosperity, and, if deprived of this natural resource, must ultimately perish. Self defense compels the state to withhold its resources for the benefit of future as well as present generations and for the welfare and perpetuity of the state.

“It finds itself in possession of what all admit to be a great public good, and what it has it may keep and give no one a reason for its will”.

Hudson County Water Co. v. McCarter
(*supra*).

With independent nations, these natural resources, if need require, must be defended by the sword. But with states of the union this Court must determine the controversy.

Kansas v. Colorado, 185 U. S. 125; 206
U. S. 46.

Missouri v. Illinois, 180 U. S. 208; 200
U. S. 258.

Turning now to an application of either of these rules of private local law to settlement of state con-

troversies over interstate streams we find that either exclusive rule cannot apply, and in particular is this true of the doctrine of appropriation, the more exclusive.

(a) Laramie River—Illustration

By way of illustration we shall first apply the rules to the river here involved:

The Laramie river rises in part in Colorado and in part in Wyoming. The branch in Colorado rises in high mountains and flows down through a narrow valley into Wyoming. Soon after reaching that state it enters a wide plains area, the Laramie Plains. The riparian or "bank" lands in Colorado are limited to the narrow mountain valley, while in Wyoming they extend from the river for miles upon either side. Out on the eastern plains of Colorado however are great areas of arid but fertile lands needing but the benefit of her mountain waters to bring them into the same high state of productivity already attained upon adjacent irrigated areas.

If the rule of riparian rights were to control the settlement of this controversy, Colorado would be forever deprived of but the most insignificant use of her own waters, her greatest natural resource, and her fertile but arid lands would remain forever unproductive, by reason of the fact that only the lands of the narrow mountain valleys in Colorado are riparian, and these waters, imperative to her present and future development and welfare, would pass forever into Wyoming there to be used, enjoyed or wasted or to pass to the sea. The exclusive rule, forbidding use on non-riparian lands, for the benefit of the favored class (riparian lands), would prevent the use by Colorado of her most valuable resource while at the same time would give it to her neighbor upon

which to fatten at the expense of the former. If such were the situation between independent nations, Colorado would seize such portion of water as she could and, if forced to that extreme, would defend her right so to do by the sword. Further argument would seem unnecessary to demonstrate that the riparian doctrine of private (and equal yet exclusive) usufructuary rights cannot apply between states or nations however ancient its origin may be.

With equal force, the doctrine of prior appropriation cannot apply between these states, with equal rights and powers to enjoy and control their own natural resources throughout all future time.

While in this case the forces of nature have so shaped the Laramie river valley that, do what she may, Colorado can never take more than a 91-250 portion of the water rising within her own borders and must permit the remainder, for all time, to pass to her neighbor, Wyoming, to use, waste or pass to the sea; yet, for the purpose of this illustration, we shall assume that the physical conditions were such that both the waters of the Colorado Laramie and those rising in Wyoming could be diverted within the latter state at the mouth of the Little Laramie and carried thence into Colorado. Further, that long prior to any development in Wyoming, this interstate canal had been constructed and all the waters so diverted in Wyoming, but rising in both states, had been conveyed into Colorado and there used upon her lands. Under the rule of priority of appropriation such right would have been exclusive and Colorado could forever prevent Wyoming from the use not only of the Colorado waters but as well of the waters rising and flowing in Wyoming (her valuable natural resource) and thereby Wyoming would be doomed, as to this

river, to total aridity while Colorado would wax rich at the expense of her neighbor. We venture to say that, were the states independent nations, the exclusive claim of the first appropriator in such a case would be refused recognition in any court for the settlement of international controversies and that Colorado would be limited to the use of her own waters and forbidden those of Wyoming. Colorado could not thus impose an extra-territorial servitude upon Wyoming without her consent, and the right of Wyoming to deny any such claims, had not surrender been made in the Constitution, might well be enforced by her armies in defense of herself and her natural resource.

The exclusive rule of appropriation is open to other similar objections.

(b) Destiny of State Left to Accident.

Location and construction of canals and diversion works are frequently the result of natural conditions. Such works are usually first constructed where no natural obstacles interfere.

On the other hand it requires the accumulated force of years and the massing of wealth, sometimes of generations, to overcome the great natural barriers which frequently obstruct the progress of development but whose ultimate removal is imperative in order that the desert places may be converted into fields and gardens, and the people of the state and the nation may obtain sustenance.

Infant nations or states can little afford to undertake projects which, in their later history, their accumulated energies often accomplish with apparent ease. For example, the United States could little

have undertaken and much less have accomplished, the construction of great irrigation works in the early years of our history. So, too, in the instant case, while natural conditions offered no obstacle and, on the contrary, invited construction on the plains of Wyoming, and canals were there built with ease and little expense, yet it took the accumulated energy of nearly half a century for Colorado to accumulate sufficient vital force to drive the tunnel through the mountain range wherewith to make beneficial use of the smaller part of the waters of her own stream.

Thus, it is that prior appropriation is very frequently the accident of physical location, and were the rule to apply between states their destiny would be determined, not by their present or future necessities for use of their natural resources, but rather by accident of local physical conditions inviting construction on the one hand or delaying it upon the other, thereby to leave the fate of states to accidental ease of first construction. While to be sure, the same rule applies with individuals in their usufructuary rights and within the state and the junior is utterly denied for benefit of the first taker, nevertheless such a preference is within the governmental powers of the states, and, in the disposition of their resources to the most ultimate good, inasmuch as there is but water for the few (which, if parceled among the many would benefit no one), the state may determine to whom the exclusive use may be given in order to ultimately bring to the state and its people the greatest benefit with the least waste, and furthermore, the state, whenever it may so desire, by the power of eminent domain, may take away all vested usufructuary rights and establish some new plan adapted to future conditions, only perhaps in the future to again condemn and establish still a different order of things.

But although such may be the local regulation among the private rights of citizens within the state, the very statement of the rule is its own denial, when asserted as law between states with equal rights and powers and which, save for the powers surrendered in the Constitution, are for all purposes of this case, to be considered as independent nations. To apply the exclusive rule of first appropriator would be to utterly deny to the one the use of its natural resources for total benefit of another.

The same objection may be pointed out in a different manner. In the case of Montana, as we read the record and briefs in *Bean v. Morris, supra*, it appears that Sage Creek, rising in that state and flowing into Wyoming, had its source in a portion of Montana set apart and withheld from development by the United States as an Indian Reservation during all the years when lands of Wyoming, along that stream, were open to settlement and reclamation. The reservation was later thrown open and Montana citizens were given their first opportunity to use either the lands or waters within their borders while, in the meantime, the waters of the Montana stream had been used in Wyoming by settlers who took with full knowledge that the stream had its rise in Montana and that the lands of that state are just as arid as those in Wyoming. If in that case the controversy had been between states, when Montana had her first opportunity to develop her domain and make use of her own, she would have been confronted by prior claims of citizens of Wyoming and, assuming that such claims were for the entire flow of the stream, her right to use her own resources would have been challenged by the neighboring state under claim of exclusive right by priority of appropriation.

To ask whether Montana, as a state, could thus be denied the use of her own greatest natural resource against her will, would seem its own denial. Yet such undoubtedly would be the effect of application of the private exclusive property rule of prior appropriation to settlement of controversies involving not only the present prosperity but as well the future destinies of states. Montana (if an independent nation) would without doubt, under all rules of international law, be entitled to make use of her own waters within her own domain in such manner as her sovereign will might prescribe and her neighbor, failing to settle the controversy by treaty or arbitration, must either suffer the consequences or challenge the right, which the neighbor would then defend. Undoubtedly no harsh, exclusive rule of first taker by private citizens could thus control the destinies of nations or of states of the Union.

The same conditions would obtain wherever natural, legal or artificial obstacles (forest or Indian reservations, etc.) have prevented the upper state from earlier making full use of her own. And, in the instant case, if in fact Wyoming had (which she has not) already appropriated all the waters of the Laramie river before any interwatershed diversions were undertaken by Colorado (owing to the enormity of the physical obstacles presented), it would be a new rule of international or interstate law which, on claim of first taker by a citizen of a neighboring state, would utterly deny to the state of origin the use of even a portion of her own waters, imperative for her own prosperity and the growth and sustenance of her own people. This would be especially true in view of the fact that the water had been used by Wyoming citizens after Colorado had been admitted as a state of the Union, with all the reserved

powers of the original thirteen, and with full knowledge upon their part of the natural conditions prevailing within Colorado and the necessities of the state and her people. Again we suggest that, under the law of nations, Colorado might take her own and do with it as she would and defend her right so to do by force.

Kansas v. Colorado, 206 U. S. 46, 98.

(c) **Servitude—Extra-territorial.**

But we cannot agree that among nations or states with equal powers and sovereign rights, the one may claim, through her citizens by mere first use, a preferred and exclusive right to perpetually use for her benefit waters rising within and flowing from out the domain of her neighbor, thereby to deny forever to the nation or state of origin a part or all of the benefit of her own stream, be her necessities ever so great.

In the opening pages of this brief we made note of the dignity and powers of independent nations and the equality thereof one with the other, also their exclusive jurisdiction over and right to use and enjoy their natural resources in such manner and at such times as best suited their development and their necessities and that the rivers of a nation are classed as among the most valuable of its natural resources.

Vattel Law of Nations, (1872 Ed.
Chitty) pp. 53, 148-9, 163-4, also pp.
120, 123, 125.

Schooner Exchange v. McFadden, 7
Cranch, 116, 136.

Rhode Island v. Massachusetts, 12 Pet.
657, 633.

Further, that the original states, before the union, were free and independent states or nations and that each state of the Union, new or old, is, save for the powers surrendered to the United States by the Constitution, to be here considered as a free and independent nation with all its original rights to the benefit of and jurisdiction over the streams within its domain, and that each of the states of the Union, new and old alike, stand upon an equality one with the other and the powers of one are no greater and no less than those of every other.

New York v. Miln, 11 Pet. 102, 139.

Chisholm v. Georgia, 2 Dall. 419, 435.

Texas v. White, 7 Wall. 700, 725.

Kansas v. Colorado, 206 U. S. 46.

Each state may make such laws, rules and regulations for the control of streams within its domain as its local necessities may require, and the United States, by its legislation and its courts, recognizes and enforces these local laws.

Martin v. Waddell, 16 Pet. 367, 409-10;

Hardin v. Jordan, 140 U. S. 371, 380-2,
382, 402;

Shively v. Bowlby, 152 U. S. 1;

United States v. Rio Grande Irr. Co.,
174 U. S. 690, 702-6;

Bacon v. Walker, 204 U. S. 311, 315;

Kansas v. Colorado, 206 U. S. 46;

Snyder v. Colorado Gold Dr. Co., 181
Fed. 62;

United States v. Cress,—U. S.—,
37 Sup. Ct. Rep. 380.

One state may grant rights to its citizens in its natural resources and its waters, which it may deny to citizens of another state.

McCready v. Virginia, 94 U. S. 391;
Manchester v. Massachusetts, 139 U. S.
240;
Geer v. Connecticut, 161 U. S. 519.

and the rights between states are to be decided irrespective of the rights or claims of private citizens.

Georgia v. Tennessee Copper Co., 206
U. S. 230;
Kansas v. Colorado, 206, U. S. 46;
Hudson Co. Water Co. v. McCarter, 209
U. S. 349;
Richey Land & Cattle Co. v. Miller &
Lux, 218 U. S. 258;
Bean vs. Morris, 221 U. S. 485.

To carry the reasoning to its conclusion, it would seem, therefore, that whenever any rule of private property law is suggested as a proper rule for settlement of interstate disputes, it cannot obtain for such purpose if it violates any of the fundamental principles above announced. We contend the private property rule of priority of appropriation cannot obtain as a rule of interstate law. Neither for that matter can the private property rule of riparian rights apply. Both are rules of exclusion, where the usufruct in the natural resource, the water, is taken from the many and given to the few, and in turn the few exclude the many from its enjoyment.

In disputes over rivers common to two states, any rule, which permits the lower state to deprive the state of origin of the use and benefit of the waters that rise and flow within her borders, would be contrary to the fundamental doctrine that each state, as with an independent nation, has the right to, and must of necessity, enjoy and rely upon her natural resources within her domain, and cannot be deprived

thereof by her neighbor without her consent, to her own destruction. Waters that rise and flow from one state into another are forever lost to the former unless there used, and any rule which forbids this use denies to the state or nation of origin the benefit of her inherent sovereign right to enjoy her own and maintain herself with her domain.

This, the rule of appropriation does. It takes, if need be, the whole of the stream and gives it to the first user as against all others.

Here Wyoming claims that she is entitled to all the waters of the Laramie river which rise and flow in Colorado because, she says (and in the proof whereof she failed), her citizens appropriated and used all the waters of this river prior to the time Colorado and her citizens, delayed as they were, by a theretofore insurmountable obstacle (mountain range), had gathered sufficient vital force to build her "skyline" ditches over the mountain passes and to drive her great tunnel through the mountain range, by the combined ability of which she now and for all time can divert but $91/250$ of the water of her own river. In other words, if, in fact, (though such is not the case) all the waters had actually been so applied to beneficial use in Wyoming, prior to the Colorado development, Wyoming contends that under the rule of priority she may lay claim to an exclusive use of the Colorado as well as the Wyoming river, notwithstanding the fact that the Wyoming diversions were all made with full knowledge of the necessities of Colorado, the aridity of her fertile lands and her right as a state to ultimately use her own great resource, her waters, to make her arid lands productive and to sustain herself and her people.

The assertion of such a rule is to deny its application to the settlement of interstate controversies over rivers. Its fundamental principles forbid its use. It would deny to the state of origin all the waters of the streams and give their entire benefit to a state foreign to the source, thereby, in effect, to invade and take the domain of one state and to give it to another, without consent, compensation or even regret. It would be the assertion by a foreign¹ state of full, complete and exclusive jurisdiction over a portion of the domain of another state; a claim contrary to the law of nations and ultimately leading to disregard of all rules of international law and respect for the rights of other states of equal dignity. The taking of the property of one country and giving it to another, under rules of international or interstate law, has the same effect upon her domain as though it were invaded by armies. In the end the domain of one state is laid hold of for the benefit of another and the property of the former is taken away that she may perish, and given to the other that she may prosper. Any such a rule would violate the rights of independent nations of equal dignity and sovereign powers, and, we believe, would not be applied as a rule of settlement by a court of international arbitration. With equal force, it cannot apply between states of the Union of equal dignity, powers and jurisdiction, and with equal rights to use and receive the benefits of their own resources according to their present or future necessities, free from claims of foreign servitude.

The usufructuary rights of the individual citizen of Wyoming are defined by the Constitution, laws and decisions of the courts of that state. The rights of the private citizen are there permitted to attach under the fundamental doctrine of priority by appro-

priation with such modifications and limitations as the state has seen fit to assert, according to its peculiar local conditions and necessities, and with the reserved power of the state to take them away from the citizen, by eminent domain, whenever necessity may require. But the local law of Wyoming can have no extra-territorial effect, and especially when prejudicial to the rights of other states.

“It is difficult to conceive upon what ground a claim can be rested, to give to any municipal laws an extra-territorial effect, when those laws are prejudicial to the rights of other nations, or to those of their subjects. It would at once annihilate the sovereignty and equality of every nation which should be called upon to recognize and enforce them; or compel it to desert its own proper interest and duty to its own subjects in favor of strangers, who were regardless of both. A claim, so naked of any principle or just authority to support it, is wholly inadmissible.”

Story on Conflict of Laws, Sec. 32, p. 29.

“Now, the general rule certainly is, that every legislative act ought to receive a reasonable construction; and it cannot be presumed that a legislature authorizes any act to be done in a foreign territory, when that act is beyond the reach of its proper jurisdiction or sovereignty. Every legislature, however broad may be its enactments, is supposed to confine them to cases or persons within the reach of its sovereignty.”

Farnum vs. Blackstone Canal Co., 1
Sumner 46, 62.

See also :

Schooner Exchange vs. McFaddon, 7
Cranch 116, 136.

Cooley Const. Limitations (7th Ed.), p.
176.

Hilton vs. Guyot, 159 U. S. 113.

One state cannot expropriate for its public purposes property within the territory of another state.

“Every sovereign state may exercise the power of eminent domain—no state can exercise the power by taking or injuring property outside its territorial limits.”

10 An. & Eng. Enc. Law, p. 1051.

“No sovereign, according to modern international law, can exercise the prerogative of sovereignty in any domain but his own. * * * By the law of nations one government cannot enter upon the territories of another, or claim any right whatever therein.”

Wharton Int. Law Digest, Vol. I, p. 38-9.

Crosby vs. Hanover (N. H.) involved the right of officers of New Hampshire to expropriate territory of Vermont for abutments of an interstate bridge :

“Our courts and the officers of our laws have no jurisdiction as such to do any act or take any property in that State. Our official powers are confined to the limits of our own State, and the court in this case cannot require or authorize the town to go into Vermont to take the property of the corporation there, and the commissioners had no power to condemn property situated in that State.

They could take the franchise of the corporation, because that exists in this State, and by its laws; and they could take all the property in this State necessary for the purposes of building the bridge; but they had no jurisdiction or power beyond the limits of the State."

Crosby vs. Hanover, 36 N. H. 404, 423.

"The question has arisen whether, by virtue of the right of eminent domain, one state can take, or subject to public use, land in another state, and the decisions have naturally been against such a power. (Citing cases.)

The rule which has been referred to is based upon the principle that the improvement of the navigation of navigable rivers within a state is part of the state's governmental duties, and that the work which is done towards such improvement is done in the discharge of the governmental powers of the state, and that the land of the riparian proprietor within the state is subject to the just exercise of this power; and that when the state undertakes to exercise its governmental power, the public good is paramount to the consequential injury of land which is incidentally and necessarily affected by the improvement. The land is under the jurisdiction of the state and the state derives the power to inflict remote and consequential injuries upon it by virtue of such jurisdiction. The owner of land abutting upon a navigable river owns it subject to the right of the state to improve the navigation of the river, because the land is with-

in the governmental control of the state; but it seems to me *that the state obtains by virtue of its governmental powers no control over or right to injure land without its jurisdiction.* Jurisdiction confers the power and the right to inflict consequential injury, but when no jurisdiction exists the right ceases to exist. It is a recognized principle that the statutes of one state in regard to real estate cannot act extra-territorially. As Connecticut has no direct jurisdiction or control over real estate situate in another state, it cannot indirectly, by virtue of its attempted improvement of its own navigable waters, control or subject to injury foreign real estate."

Holyoke Water Power Co. vs. Connecticut River Co., 52 Conn., 570, 575-6.

In *McCarter vs. Hudson County Water Co.* citizens of New York were prohibited from taking away from New Jersey a part of the waters of its stream without its consent and contrary to its express statutory prohibition. In the opinion by the Court of Errors and Appeals, Mr. Justice Pitney thus answers the assertion that the people of the neighboring state of New York had a natural right to the use of the waters of New Jersey, if such a use could be granted without impairing the rights of individual riparian owners upon the New Jersey stream:

"Stripped of all circumlocution, what is asserted is the right of the people of New York to derive an artificial water supply from the territory of New Jersey without the consent of the people of this state. This argument, however, is at once overthrown

by reference to the established principle that one state cannot expropriate for its public purposes property within the territory of another state." (Citing cases.)

"To admit that the people of the State of New York have any inherent right to gain a water supply from the lakes or streams of New Jersey by means of an artificial aqueduct constructed for the purpose is to assert that the sovereignty of New York extends to some extent and for some purposes over the soil of New Jersey. To state the proposition is to refute it. Such interstate rights can be acquired only by interstate compact.

We have been privileged to see in print an opinion recently submitted to the Merchants' Association of New York by Mr. Randolph, author of the well-known work on eminent domain, upon the question of an interstate water supply for that city. Referring to 'that interest in water which each state possesses as the guardian of its community,' he says:

'I think it is clear that the right of an individual or corporation to divert water, whether gained by public grant *or by prior appropriation*, is presumed to be utilized within the state, which may forbid the carriage of the water beyond its bounds.'

And he uses this language:

'And when we point out that each state holds all the property in its territory free from the eminent domain of another, and cannot be compelled to surrender its prop-

erty to another in any way, I think we approximate the irreducible measure of sovereignty in this relation.' ”

McCarter vs. Hudson County Water Co., 70 N. J. Eq. 695, 717.

While immediately following the above language, Mr. Justice Pitney observed that the case there presented is not parallel with a case which might arise on an interstate stream, it will be observed that his opinion was largely limited by the decision on demurrer in *Kansas vs. Colorado* (185 U. S. 125), and that he did not have the benefit of the final decision in that case (206 U. S. 46).

The fundamental rule that one nation cannot exercise its sovereign power and jurisdiction over the waters or domain of another nation without her consent and cannot expropriate the waters of an upper nation for the use of the lower nation by claim of *prior appropriation* even on an international river, has been recognized and followed by the United States in its relations with Mexico. Mexico made complaint of injury by diminution of the Rio Grande River by citizens of the United States in Colorado and New Mexico, and asserted a preferred right to the use of the stream by prior appropriation by certain of the citizens of Mexico. It was held that Mexico could not, under any rule of international law, lay claim to the waters that had their source within the United States, and that to claim the waters by prior appropriation would be to assert a *servitude* upon the domain of the upper nation. The facts there presented are so nearly parallel with the contention here made by Wyoming that we quote at length from the opinion of Attorney General Judson Harmon:

“There have been disputes about rights of navigation of international rivers, but they have been settled by treaty. (For a list of such treaties see Heffter *Droit Int.*, Appendix VIII.) The subject is fully discussed by Hall (*Int. Law*, sec. 39), who denied that the people on the upper part of a navigable river have a natural right to pass over it through foreign territory to its mouth. But if such right be conceded, no aid is afforded for the present inquiry, because use for navigation, being common, would not curtail use by the proprietary country, while in the case now presented, there not being enough water for irrigation in both countries, the question is, which shall yield to the other.

It is stated by some authors that an obligation rests upon every country to receive streams which naturally flow into it from other countries, and they refer to this as a natural international servitude. Heffter *Droit Int.*, sec. 43; 1 Philemore *Int. Law*, p. 303.) Others deny the existence of all international servitudes, apart from agreement in some form. (Letters of Grotius quoted, 2 Hert., p. 106; Kluber *Droit des Gens Moderne*, sec. 139; Bluntschli *Droit Int. Cod.*; Woolsey's *Int. Law*, sec. 58; 1 Calvo *Droit Int.*, sec. 556.)

Such a servitude, however, if its existence be conceded, would not cover the present case or afford any real analogy to it. The servient country may not obstruct the stream so as to cause the water to back up and overflow the territories of the other.

The dominant country may not divert the course of the stream so as to throw it upon the territory of the other at a different place. (See authorities *supra*.) In either of such cases there would be a direct invasion and injury by one of the nations of the territory of the other. But when the use of water by the inhabitants of the upper country results in reducing the volume which enters the other, it is a diminution of the servitude. The injury now complained of is a remote and indirect consequence of acts which operate as a deprivation by prior enjoyment. *So it is evident that what is really contended for is a servitude which makes the lower country dominant and subjects the upper country to the burden of arresting its development and denying to its inhabitants the use of a provision which nature has supplied entirely within its own territory.*

Such a consequence of the doctrine of international servitude is not within the language used by any writer with whose works I am familiar, and could not have been within the range of his thought without finding expression.

Both the common and the civil law undertake to regulate the use of the water of navigable streams by the different persons entitled to it. Neither has fixed any absolute rule, but both leave each case to be decided upon its own circumstances. But I need not enter upon a discussion of the rules and principles of either system in this regard, because both are municipal and,

especially as they relate to real property, can have no operation beyond national boundaries. (Creasy Int. Law, p. 164.) So they can only settle rights of citizens of the same country *inter sese*. *The question must, therefore, be determined by considerations different from those which would apply between individual citizens of either country.* Even if such a question could arise as a private one between citizens of one country and those of another, it is not so presented here. The mere assertion of the claim by Mexico would make it a national one even if it were of a private nature. (Gray vs. United States, 1 C. Cls. R., 391-392.) But the use of water complained of and the resulting injuries are general throughout extended regions, so that effects upon individual rights can not be traced to individual causes, and the claim is by one nation against the other in fact as well as form.

The fundamental principle of international law is the absolute sovereignty of every nation, as against all others, within its own territory. Of the nature and scope of sovereignty with respect to judicial jurisdiction, which is one of its elements, Chief Justice Marshall said (*Schooner Exchange vs. McFaddon*, 7 Cranch, p. 136) :

‘The jurisdiction of the nation within its own territory is necessarily exclusive and absolute. It is susceptible of no limitation not imposed by itself. *Any restriction upon it, deriving validity from an external source, would imply a diminution of its sovereignty to the extent of the restriction.*

All exceptions, therefore, to the full and complete power of a nation within its own territories must be traced up to the consent of the nation itself. They can flow from no other legitimate source.'

It would be entirely useless to multiply authorities. So strongly is the principle of general and absolute sovereignty maintained that it has even been asserted by high authority that admitted international servitudes cease when they conflict with the necessities of the servient state. (Bluntsehli, p. 212; see criticism by Creasy, p. 258.) Whether this be true or not, its assertion serves to emphasize the truth that *self-preservation is one of the first laws of nations. No believer in the doctrine of natural servitudes has ever suggested one which would interfere with the enjoyment by a nation within its own territory of whatever was necessary to the development of its resources or the comfort of its people.*

The immediate as well as the possible consequences of the right asserted by Mexico shows that its recognition is *entirely inconsistent* with the sovereignty of the United States over its national domain. Apart from the sum demanded by way of indemnity for the past, the claim involves not only the arrest of further settlement and development of large regions of country, but the abandonment, in great measure at least, of what has already been accomplished.

* * * * *

It is not suggested that the injuries complained of are or have been in any measure due to wantonness or wastefulness in the use of water or to any design or intention to injure. The water is simply insufficient to supply the needs of the great stretch of arid country through which the river, never large in the dry season, flows, giving much and receiving little.

The case presented is a novel one. Whether the circumstances make it possible or proper to take any action from considerations of comity is a question which does not pertain to this Department; *but that question should be decided as one of policy only, because, in my opinion, the rules, principles, and precedents of international law impose no liability or obligation upon the United States.*" (Italics ours.)

Opinions of Attorneys General, Vol. XXI, p. 280-3.

The complainant on pages 174-6 of the supplemental brief quotes the last paragraph in the foregoing opinion of Judge Harmon and places an erroneous construction upon the word "novel" as there used. The conclusions which counsel draw are however, not in full accord with the recommendations made by Judge Harmon, that "The question should be decided as one of policy only, because, in my opinion, the rules, principles, and precedents of international law impose no liability or obligation upon the United States". The United States did settle the controversy upon the grounds of international policy and by treaty, as all such matters are usually

adjusted between friendly nations, a power still reserved to the states of the United States, the consent of Congress first having been obtained.

When the United States, as a matter of international policy but not of international law, settled the differences over the Rio Grande with Mexico it took the precaution to so word the treaty that the adjustment could never be taken as a recognition of any lawful claims by Mexico and in Article 5 provided:

“The United States, in entering into this treaty does not thereby concede, expressly or by implication, any legal basis for any claims heretofore asserted, or which may be hereafter asserted, by reason of any losses incurred by the owners of land in Mexico, due, or alleged to be due, to the diversion of the waters of the Rio Grande within the United States; nor does the United States in any way concede the establishment of any general principle or precedent by the concluding of this treaty.”

Art. V, Treaty of May 1, 1906.

The same observation may be made with regard to the letter of Secretary of State Evarts of Jun 12. 1880 (cited on page 175) which was likewise considered a matter of international policy rather than international law and by express provisions, the letter referred primarily to private property interests of citizens.

Denial of right of international servitude by claims of prior appropriation for citizens of a lower nation upon an international stream, as defined in the opinion of Judge Harmon, has never been questioned so far as we are able to ascertain. Denial of such international servitudes seems to have been ac-

cepted as a proper interpretation of the principles governing such claims. The position taken by Judge Harmon is in large measure approved by this Court, as regards interstate streams. In *Kansas vs. Colorado* it was admitted that certain ditches in Kansas had prior claims to those in Colorado and that the Colorado diversions had diminished the water supply of these Kansas canals, but this court refused to enjoin the state of Colorado on account of such diminution of the supply of the stream. Mr. Justice Brewer said:

“At one time there were some irrigating ditches in these western counties, which promised to be valuable in supplying water and thus increasing the productiveness of the lands in the vicinity of the stream, and it is true that those ditches have ceased to be of much value, the flow in them having largely diminished.

It cannot be denied in view of all the testimony * * * that the diminution of the flow of the water in the river by the irrigation of Colorado has worked some detriment to the southwestern part of Kansas, and yet when we compare the amount of this detriment with the great benefit which has obviously resulted to the counties in Colorado, it would seem that equality of right and equity between the two states forbids any interference with the present withdrawal of water in Colorado for purposes of irrigation. * * *

Summing up our conclusions, we are of the opinion * * * that the appropriation of the waters of the Arkansas by Colo-

rado, for purposes of irrigation, has diminished the flow of water into the State of Kansas; that the result of that appropriation has been the reclamation of large areas in Colorado, transforming thousands of acres into fertile fields and rendering possible their occupation and cultivation when otherwise they would have continued barren and unoccupied; that while the influence of such diminution has been of perceptible injury to portions of the Arkansas valley in Kansas, particularly those portions closest to the Colorado line, yet to the great body of the valley it has worked little, if any, detriment, and regarding the interests of both states and the right of each to receive benefit through irrigation and in any other manner from the waters of this stream, we are not satisfied that Kansas has made out a case entitling it to a decree. At the same time it is obvious that if the depletion of the waters of the river by Colorado continues to increase there will come a time when Kansas may justly say that there is no longer an equitable division of benefits and may rightfully call for relief against the action of Colorado, its corporations and citizens in appropriating the waters of the Arkansas for irrigation purposes."

Kansas vs. Colorado, 206 U. S. 46, 113, 117.

That the application of the doctrine of priority without regard to state lines would be a recognition of extra-territorial servitudes is recognized in *Bean vs. Morris*, involving an interstate stream:

“We assume that the concurrence of the laws of Montana with those of Wyoming is necessary to create easements, or such *private* rights and obligations as are in dispute, across their common boundary line. *Missouri vs. Illinois*, 200 U. S. 496, 521; *Rickey Land & Cattle Co. vs. Miller & Lux*. 218 U. S. 258, 260. But with regard to such rights as came into question in the other states, we believe that it always was assumed, in the absence of legislation to the contrary, that the states were willing to ignore boundaries, and allowed the same rights to be acquired from outside the state that could be acquired from within.”

Bean vs. Morris, 221 U. S. 485, 486.

But here there is no “absence of legislation to the contrary” and neither state is “willing to ignore boundaries and allow the same rights to be acquired from outside the state that could be acquired within.” *On the contrary, both states by their constitution, laws and the decisions of their courts reserve their waters for themselves and deny and declare against any servitudes for the benefit of neighboring states.*

See Constitutions, Statutes and Decisions, (*Supra*) (pp. 148 to 174.)

Lamson vs. Vailes, 27 Colo. 201, 203.

Stockman vs. Leddy, 55 Colo. 24, 27.

S. L. Colo. 1917, Chap. 151, p. 539.

Farm Inv. Co. vs. Carpenter, 9 Wyo. 110, 135.

Grover Irr. Co. vs. Lovella D. Co. 21 Wyo. 204.

Of the decisions and statutes of Colorado we have heretofore commented at length.

The decisions of the Supreme Court of Wyoming deny her assertions of right to expropriate the waters of Colorado for the use of Wyoming. Subsequent to the filing of the bill of complaint herein (and on April 7, 1913) the Supreme Court of Wyoming denied the right of Colorado citizens to expropriate lands and water in Wyoming for use in Colorado notwithstanding the fact that the stream was interstate and common to the two states in the same degree as is that portion of the Laramie river here involved, save for the fact that with the stream there involved, Crow Creek, the conditions are reversed, the stream having its source in Wyoming and flowing into Colorado. While Wyoming here asserts a right (by prior appropriation) to all the waters of that portion of the Laramie river in Colorado and would impose a perpetual servitude upon Colorado domain and natural resources for the *exclusive* use and benefit of Wyoming, and asks that Colorado be perpetually enjoined from using her great tunnel enterprise; yet, when the conditions were reversed and Colorado citizens made claim to the right to use but a portion of the waters of a stream having its source in Wyoming and flowing into Colorado, Wyoming declared against any such servitudes and denied the right of Colorado to impress any such dominant estate upon Wyoming territory, irrespective of the fact that the district court had found that the use of water of the stream in Colorado would bring immediate returns to adjacent Wyoming territory. Chief Justice Potter in a most exhaustive opinion, denies the right of one state to expropriate property of another and in a most learned manner reviews the decisions. Owing to the immediate im-

portance of the decision and its unqualified approval of the authorities we have already cited we quote at some length from the sixty page opinion:

“Eminent domain is generally defined as the right or power of a sovereign state to appropriate private property to particular uses, for the purpose of promoting the general welfare. * * * *In this respect the several states are distinct and independent of each other*, respectively possessing and exercising the power for their own purposes of their public welfare. ‘The eminent domain in any sovereignty exists only for its own purposes.’ ”

He then discusses the essential elements of the power of eminent domain and its use for the purposes of state or public welfare and says:

“It is also well settled that a state cannot take or authorize the taking of property or rights in property situated in another state. (Citing cases.) ‘One state cannot expropriate for its public purposes property within the territory of another state.’ (McCarter vs. Hudson W. Co., 70 N. J. Eq. 695).

‘The question has arisen whether, by virtue of the right of eminent domain, one state can take, or subject to public use, land in another state, and the decisions have naturally been against such a power.’ (Holyoke W. P. Co. vs. Conn. R. Co., 52 Conn. 570, 575; s. c. (C. C.) 20 Fed. 71, 79).

The principles above stated seem to have been recognized by the trial court in this case, if we may refer to a quotation

from the opinion of the learned judge found in the brief of counsel for defendant in error, for the ground of the decisions seems to have been that the proposed irrigation of the lands, which lie just over the line of this state in the State of Colorado, will be of material benefit to a considerable part of the inhabitants of a section of this state, since it may lead to the growth of towns and the creation of new channels for the employment of capital and labor. * * * This line of argument is not without some force, but we think it disregards or misconceives the theory or public interest supporting the exercise of eminent domain for irrigation works or the irrigation of land, and would, in effect, if sustained, permit the exercise of eminent domain in this state by the State of Colorado, or any other state, for its own uses and purposes.”

Then follows a review of authorities on public character of private enterprises, founded on the rules of local necessity, and continues:

“*The irrigation of land in a neighboring state*, and so also the building of a railroad in that state, or the development of its mines or other natural resources, may no doubt result in some benefit to the people of this state, but only in the general way that one state is benefited by the growth in industrial activities, population and wealth of an adjoining state, or even of a more distant state or the nation at large. To accept that, however, as a sufficient reason for taking land in this state under the power

of eminent domain, if for the *purpose of irrigation*, would not tend to advance the interest of this state in the reclamation and cultivation of its lands, or the development of its natural resources, but the effect might be entirely the reverse, and it would abandon the principle upon which the right to exercise the power for irrigation and other analogous purposes has been asserted and maintained. The headgate and ditch by which water for agricultural purposes is diverted and distributed is not the use for which land required for a right of way is taken; *the use authorizing such a taking is the application of the water to the land.* The use, whether public or private, therefore, occurs where the water is applied; that is, where the land to be irrigated is located. If located in another state the use is there, and that use must support the exercise of eminent domain for a right of way for the ditch, if it is to be supported. *Since in this case it appears that no land in this state will receive for its reclamation or cultivation any of the water to be diverted or distributed by means of the ditch, but the water is to be entirely devoted to the irrigation of land in another state, the use will be in and for that state—for its uses and purposes, and not in this state or for any of its purposes.* The principle above discussed, that the power of eminent domain will be exercised by a state for its own purposes, and not for the use of another state, seems, therefore, to be applicable. *Clearly the State of Colorado cannot exercise the pow-*

er in this state, and any authority conferred by its laws to do so would be void, for it is fundamental that the sovereignty of any government is limited to persons and property within the territory it controls." (Citing cases.)

"While this state may be interested and even indirectly benefited in the manner above indicated by the reclamation and settlement of lands in another State, it would be difficult, we think, to uphold the exercise of eminent domain in this state on the ground that such reclamation and settlement in another state is a necessity of the government of this state, in view of the fact that within its own boundaries and in all parts of the state there are vast areas yet uncultivated capable of irrigation and reclamation."

After a review of the "mill" cases from the New England states, he continues:

"Since the purpose is solely to irrigate lands in another state, it is not material that the headgate is to be located but a short distance above the southern boundary line of this state, or that the lands to be irrigated are located just over the line in the adjoining state. It would make no difference in principle if it was proposed to divert the water from some stream in the interior or elsewhere in our state much farther removed from the lands to be irrigated, or if it was proposed to irrigate lands in another state situated at a greater distance beyond our territorial limits. * * *

* * * *It is a familiar elementary principle that the laws of a state have no extra-territorial effect.* And it is not necessary for a state statute to contain words expressly confining its operations within the state.

* * * * *

In a concurring opinion in *Salisbury Mills vs. Forsaith*, (57 N. H. 174) it was said: 'It is one of the plainest elementary rules, that no legislature can extend its laws to territory beyond the borders of its own state. How, then, can the courts of this state have any jurisdiction over dams and mills in another state?' And in *Wooster vs. Great Falls Mfg. Co.* (39 Me. 246) it was said by the Court: 'All legislation is necessarily territorial. The statutes of a state are binding only within its jurisdiction. The legislature cannot, if they would, authorize acts to be done in a foreign territory. * * * They cannot affect or control property elsewhere, and it is not to be presumed they intended to exceed their jurisdiction.' Mr. Justice Story, in *Farnum vs. Blackstone Cand.*, 1 Sumner, 62, Fed. Cas. No. 4,675, remarked: 'Every legislature, however broad may be its enactments, is supposed to confine them to cases or persons within reach of its sovereignty.' "

In conclusion the Colorado citizens were denied the right to expropriate a right of way for their canal and incidentally denied the use of water from the stream in Wyoming.

Grover Irrigation & Land Co. vs.
Lovella Ditch Co., 21 Wyo. 204,
240, 255, 260.

We have no quarrel with the foregoing decision or its effect upon the Colorado citizens. Without doubt Wyoming should fully protect her territory and waters from foreign servitudes and her Supreme Court very properly denied to Colorado citizens the right to make Wyoming domain servient to any use of water in Colorado, even though some benefits might accrue to Wyoming thereby. "What it has it may keep and give no one a reason for its will." *But we fail to see any merit in the claim of Wyoming for perpetual servitude upon the domain of Colorado, the waters of her streams, when she at the same time denies to Colorado a similar servitude when the conditions are reversed.* Wyoming very properly refused to permit a like servitude upon Crow Creek and properly retained the stream for herself for her future as well as her present needs. It would seem that Colorado would have an equal right to deny to Wyoming a servitude upon the waters of the Colorado branch of the Laramie River.

Further citation would seem unnecessary to define the doctrine of prior appropriation irrespective of state lines as a doctrine of extra territorial servitudes, without consent of the servient state, to all or a portion of the waters of the stream in one state for the exclusive benefit of another state, and therefore inapplicable for determination of the rights of equal sovereign states to their control and use of waters of streams common to both.

(d) Exclusive Claim—Equal Division.

As we understand the term "equal" when used with reference to the states, it refers to that equality in the family of states which obtains with nations in the family of nations. Each state has an equal right to not only govern itself but as well

to maintain itself and improve its domain, increase in population and promote for the present and for all time the general welfare of itself and its citizens. But if, (purely by way of illustration) we were to use a narrower construction and say that equal states have the right to enjoy an equal part of an interstate stream, even then the doctrine of appropriation is inapplicable for it takes from one state an exclusive (not equal) portion of the waters of the stream and gives it to the other without remuneration. The rule of priority is unequal among the users of water. It gives to the one and excludes the other. It cannot, therefore, apply if each state is entitled to an equal portion of the water of a river common to both.

(e) **States Look to Future—Not Past.**

Still another thought suggests itself. Priority is a rule of the past and not of the future. States must look to the future more than to the past. They must preserve and provide not for the past, but little for the present, and more for the future. As well observed by Mr. Justice Holmes:

“We are of opinion, further, that the constitutional power of the state to insist that its natural advantages shall remain unimpaired by its citizens is not dependent upon any nice estimate of the extent of present use or speculation as to future needs. The legal conception of the necessary is apt to be confined to somewhat rudimentary wants, and there are benefits from a great river that might escape a lawyer’s view.

But the state is not required to submit even to an aesthetic analysis. Any analysis may be inadequate. It finds itself in posses-

sion of what all admit to be a great public good, and what it has it may keep and give no one a reason for its will."

Hudson Co. Water Co. vs. McCarter,
209 U. S. 349, 355.

Priority looks alone to the past. Its antiquity is its chief asset. The state on the other hand may find its future needs so imperative that it must extinguish, by the power of eminent domain, even the usufructuary property rights it has permitted its citizens in its streams and take the waters for a greater need. How then could the limited right of a state, determined upon rules of priority of appropriation, as regards another state, be reconciled with its future imperative necessities. It may extinguish, or resume as it were, the property of its citizens, be they ever so ancient, but it cannot take away the rights of another state or the property of its citizens. (See authorities *supra*). Bound hand and foot it would find itself, ensnared within the meshes of a net of private property law improperly applied to interstate relations, and would be helpless to control a resource within its domain and burdened forever with foreign servitude against its will. It would find itself bound down by antiquities and powerless to defend itself or to provide for the then present or its future needs.

(f) Conclusion.

It is the stream of water rising and flowing within the domain of the state (not mere private usufructuary rights) which is and ever must remain one of its greatest resources. By preservation of the stream it provides for its present and future necessities. It may grant to the citizen his usufructuary

right by any system of private property law it may choose, whether riparian, appropriation, both in combination or any other and new system it may devise, but always inferior and subordinate to the right of the state to have the last and final word. The river after all must ever remain within its sovereign control. The river it must now and for all time keep, preserve and protect and no system of private property law now devised, either riparian or appropriation, can adjust interstate relations and at the same time preserve the river, as a river after all, for the state and all its future generations.

And whatever claim of priority of appropriation Wyoming may have made; whatever she may have proved or failed to prove of the early claims of her citizens to the waters of the river from Colorado, the fact remains, after all, that the river in Colorado is her great natural resource, which she has and must keep, now and for all time irrespective of the claims, or the assent or dissent of her private citizens. And likewise too with that portion of the river rising and flowing in Wyoming. It is Wyoming's resource and her's in a greater degree than mere past or present user. It she must likewise keep now and for all time. Either state may tomorrow sweep aside with but pecuniary reward all the rights of her citizens vested and recognized under laws of appropriation varying as they do in the two states, and may retake the stream as of her first and former estate, to do with as she may will and as her future needs and conditions may require, but this she cannot do if the river shall have been taken away by extra-territorial servitudes of the neighboring state.

Wyoming here asserts claim to all the waters of the Colorado portion of the Larimie River (save for the inconsequential use in the narrow mountain

valley) and we have presented the case from that viewpoint. But whether the lower state shall demand all or part of the water by prior appropriation, the principle is the same and the difference in effect is but one of degree. The right in any event is exclusive and would create a perpetual servitude upon the upper state and its resources, without its consent, for the exclusive use of the water of the stream.

We believe sufficient appears, without further discussion of authorities to warrant us in drawing the conclusion that the doctrine of priority by appropriation is a rule of local law, *intra-state and not interstate* in application and defines merely the right of one citizen with regard to the rights of other citizens of the state wherein the appropriation is made and to some degree his relation to the state itself in the administration of the usufructuary rights of the several appropriators; that the usufructuary right is exclusive in the appropriator and if his needs so require he may consume all the water of the stream regardless of other appropriators or the location of the lands to which the water is applied; that the application of this rule of usufructuary private right to interstate controversies would be in violation of the equal sovereign rights of each of the states involved for the several reasons which we have assigned and that the application of the rule would be to declare an involuntary, exclusive servitude upon the property and natural resources of one state for the benefit of a neighboring state and would amount to extra-territorial expropriation of the property of one state for the benefit of another state and its citizens.

There are other and more practical reasons why the rule cannot be applied between the states. The difficulty encountered is not so much the interpreta-

tion of the law as it is the enforcement thereof. In fact the *intra state* administration of the law of priority of appropriation has involved solution of many complicated problems constantly presenting themselves in the years of the development of this state or local administration and these problems must be met in the future. We shall therefore comment at some length upon this phase of the subject.

(3) THE DOCTRINE OF PRIOR APPROPRIATION, REGARDLESS OF STATE LINES INEQUITABLE AND INCAPABLE OF ADMINISTRATION.

(a) Change or Conflict of Laws.

Counsel for plaintiff, in one portion of their supplemental brief, contend in substance that inasmuch as both Colorado and Wyoming have adopted in its fundamental essentials the doctrine of appropriation, that this rule must be applied between the states and is the principle of law which should govern this controversy. But counsel overlook the fact that the systems prevailing within the two states are radically different, save for priority and that even under the fundamental rule of priority there are different fundamental limitations to the right in each state. They appear to have adopted the theory that if the two states involved in the controversy have adopted the doctrine of appropriation, then that principle must govern in a controversy between them concerning waters of a stream common to both, irrespective of differences in the principle as applied, and overlook the reserved power of the state to extinguish all private titles according to its sovereign will. On the other hand, it is contended, if one state has adopted the doctrine of appropriation and the other adheres to the common law of riparian rights, that then the

water in the streams common to both states must be divided upon an equitable basis. Mr. Kinney is cited as authority but we observe, he cites no authorities sustaining his position. It will be of interest to know upon what theory the plaintiff would attempt to solve the problem if one of the states to the controversy had adopted the law of appropriation and the other had both systems, that is to say, that it recognized the common law doctrine of riparian rights, but modified it by permitting, under certain conditions, the priority of appropriation to govern, as has been done in several of the states, notably California and Nebraska. Again, it is of interest to ask what would be the result if the principle of appropriation were declared to be the established law as between two states in which priority of appropriation governed and, thereafter, one of these states, as it undeniably has the right to do, should change its position and adopt the common law doctrine of riparian rights in place of its previous law of priority of appropriation. It is apparent at a glance that the determination of the rights of the various appropriators in the two states upon the basis of priority of appropriation would be thrown into complete and absolute confusion if one of the states should thereafter repudiate the doctrine and adopt the common law. "Neither state can legislate for or impose its own policy upon the other." Moreover, "Congress cannot enforce either rule upon any state."

The topographical and other natural conditions surrounding the State of Colorado are peculiar. The Court will take judicial notice of these, although for that matter, a full statement of these conditions is given in the evidence.

In fact, we are indebted to counsel for the plaintiff for a statement to the effect that Colorado is up-

on the apex or crest of the continent and is situated in an arid region requiring irrigation for successful agriculture. We add that the rainfall in the arable sections of the state is not sufficient without irrigation to produce successful crops and that irrigation is therefore a necessity, so much so that water for irrigation is probably, aside from the land itself and the things which are included within the term land, the most valuable asset in the state, and that every effort has been put forth by the state and its citizens to develop irrigation systems whereby water for irrigation might be provided, including the construction of reservoirs for the conservation of flood waters which would otherwise escape without beneficial use. The streams rising in Colorado flow out of the state in all directions. To the east the main streams are the South Platte and Arkansas rivers and other smaller streams which need not be mentioned; to the south are the Rio Grande and San Juan rivers with other smaller ones; to the west, the Grand, the Dolores, and the Green river which, uniting with the Grand, form the Colorado river; and to the north, the North Platte, the Laramie and other smaller streams. From no other state does Colorado receive any water, with the exception of a few small streams entering the state from Wyoming in certain portions of its northern border, and the further exception of the Green river which rises in Wyoming, flows into Utah and then loops back for a very short distance into the western border of this state. The exceptions are merely sufficient to prove the rule.

The strange feature of this case is that the topographical position of Wyoming is similar to that of Colorado and that streams leave her borders on the west, north and east, and somewhat to the south, and we are impressed with the thought expressed in the

opinion of the Court in *Bean vs. Morris*, wherein the right of an appropriator in Montana was determined as against an appropriator in Wyoming, and the Court said, assuming that Montana is willing to have rights acquired against her citizens by appropriators in the lower states, "Montana cannot be presumed to be intent on suicide, and there are as many if not more cases in which it would lose as there are in which it would gain if it invoked a trial of strength with its neighbors." Surely Wyoming is intent upon suicide, but the regrettable feature of the situation from our standpoint is, that if she is permitted to commit suicide, she at the same time will murder Colorado.

(b) **Disappearing Rivers.**

Colorado is largely mountainous and this mountain area is the source of supply of her water. The eastern portion of the state, generally speaking about one-third the area of the state, is in the Great Plains region, and on the north, west and south, while there are no areas which may be properly called plains, there are, nevertheless, isolated areas of greater or less extent, arable in their nature and capable of cultivation, but all of these areas depend upon the supply of water furnished by the mountains.

These streams after leaving the mountains have a history which is the converse of that of the streams in the humid regions. After the streams in Colorado have received their supply of water from various sources in the mountains, and in their course enter the Great Plains areas, because of the aridity of the climate they immediately begin to lose or diminish, instead of increasing in their flow like streams in the less arid sections of the country. This is the natural

condition and it is modified only in this, that diversion of water on the upper reaches of the stream, more particularly in the conservation of flood waters which usually come in the latter part of May and the first of June, and the application thereof upon the lands under irrigation, results in producing an unnatural condition for the area, in that the lands under irrigation become to a degree saturated with water and there is a constant and ever increasing amount of return and seepage water from these lands into the stream. Fortunately for Colorado, the earliest development in irrigation was upon lands lying adjacent to the mountains and the development which resulted brought about in turn greater demands for water, thereby bringing about further development through the construction of reservoirs with the general result that through the use and re-use of the return and seepage waters, the irrigation in the state has progressed step by step down stream until today many times the amount of land for which water was first available is now receiving a satisfactory supply of water. To put it in another way, irrigation has produced an unnatural condition which, in a limited way, causes these streams to receive a source of supply in a manner similar to the natural increase in the streams in humid regions. Of course we do not contend that the actual amount of water in the state of Colorado is increased. What we do contend is, that the process of irrigation has resulted in an enlarged flow of the stream during the seasons in which in earlier years the stream was either low or practically dry, depending upon the location considered. The flood waters which formerly passed without benefit to any one, are now, so far as it is possible to do so

to advantage, intercepted, stored and later used for irrigation and the flow of streams is by means of this irrigation equalized and maintained during the season of the year when the streams were of nature practically dry, and in some instances absolutely dry along portions of their courses.

Let us illustrate by referring to the Arkansas river which is the stream considered by the Court in the case of Kansas against Colorado. This stream leaves the mountains some distance west of Pueblo and enters its course across the plains, naturally losing water with every foot of its length. From the point where it leaves the mountains to the state line is a distance by meander of possibly 150 miles and until the stream enters a region of higher precipitation, there is a constant loss to such an extent that it was contended in the Kansas-Colorado case that the stream was a broken river, in other words, that there was a length of its bed or channel in which no water flowed under normal conditions. However, the application of the water for irrigation on the upper reaches of the stream has resulted, as described, in a very rapid increase of return, seepage and percolating water to the stream and the flow of the stream is definitely known to be greater at the state line than it was before any irrigation was practiced in Colorado with the possible exception of the flood period. This is also particularly true of the South Platte river upon which the city of Denver is located.

In the absence of this artificial condition which of course is not yet complete, it being a condition which is enlarging and progressing from year to year, it is a scientific fact which cannot be denied, that in order to supply 100 cubic feet, for illustration, in western Kansas

from the Arkansas river, or in western Nebraska from the Platte river, it would be necessary to permit many times that amount of water to pass, say the City of Pueblo on the Arkansas river, or the city of Denver, on the Platte river. In other words, the citizens of Colorado, particularly those on the upper reaches of the stream, must be deprived of a large amount of water necessary for their well being in order to supply a small amount of water to persons in Kansas and Nebraska. Consider in this connection the U. S. Census report 1910, giving the total area of Colorado as 66,341,120 acres, of which only 2,792,032 or 4.2% is irrigated.

May we direct attention to the evidence upon these points.

(See testimony of John E. Field, State Engineer of Colorado, pp. 1382-1387;
Prof. L. G. Carpenter, pp. 2992-3042; 3077-3092).

The unnecessary loss occasioned by depriving the state of origin of control of its waters and by causing the water to pass down losing streams in order to supply some prior appropriator in another state would appear to be so wasteful and so lacking in its applicability to the situation as to be inequitable and unjust.

While the state may determine its own local rules whereby it may obtain the greatest good from a limited resource and may permit the use, subject always to the reserved power of the state, of its waters in order of priority, yet whenever the application of such a rule, without regard to state boundaries, would not only take a natural resource from one state

and give it to another, but more, in so doing would waste the greater part of the resource it would appear wholly inequitable and inapplicable.

The law is therefore purely local, and its operation or the operation of any other law which the state may substitute for it, is confined to the artificial boundaries which define the territorial bounds of the state. These boundaries however are no more artificial in their effect upon the law of waters than they are in their effect upon many other laws,—criminal, property rights, etc. They define the territorial limits of jurisdiction. They are analagous to international boundary lines.

(c) Administration—Colorado River.

Let us take another illustration. Of these facts the Court will take judicial notice: The Green river rises in Wyoming, flows across the southern border of the state into Utah, loops back from Utah for a short distance into Colorado, returning thence into Utah where it, in conjunction with the Grand river from Colorado, forms the Colorado river. It flows thence southwesterly into Arizona, forming a portion of the boundary between Arizona and Nevada, and below that the boundary between California and Arizona, and thence into Mexico, emptying into the Gulf of California. This stream, in other words, flows within, or borders upon six states and also passes through a portion of Mexico, and irrigation is practiced in each one of these six states. While we are unable to state that water is diverted from this river in each of these six states, nevertheless, the probability is that such is the case, for it is a recognized fact that Wyoming, Colorado, Utah, Arizona, Nev-

ada and California each require irrigation and many large projects have been undertaken by the United States Reclamation Service and by private individuals diverting water from this stream along its course, the better known probably being those in California and Arizona, to omit the innumerable diversions upon the tributaries. The records of the United States Geological Survey further show diversions from the stream at numerous places along its course on both the upper and lower reaches, and measurements have been taken for a number of years, reported in Water Supply Papers, numbers 395 and 396, from which is apparent that the sources of supply for this stream are so remote one from another that, while there may be in a measure a continuity of flow throughout the course of the stream and its various tributaries, nevertheless, there are points of high and low flow apparent in various sections of the length of the stream. Could any advocate of the doctrine of appropriation regardless of state lines advance any hypothesis upon which this stream and its tributaries could be administered and the water apportioned to the various appropriators in the seventeen hundred or more miles of its length, upon the basis of priority of appropriation. It is impossible and the doctrine of appropriation regardless of state lines cannot be the law. Impossible conditions do not make law.

(d) Adjudication.

There is another feature wherein it is apparent that appropriation regardless of state lines cannot be the doctrine governing cases such as the one at bar. In the early history of the development of the arid west when diversions were small and few in number, the rights of respective appropriators were easily determined and enforced. As development progressed, it soon became apparent that some system of determination or adjudication of these rights was imperatively necessary and with it a method of distribution under some authorized governmental agency. In Colorado this necessity found expression in a statute requiring all rights to the appropriation of water to be determined in judicial proceedings and that the decree of the courts having jurisdiction should thereafter govern in the distribution of water, and that water officials, officers of the state, should thereafter distribute the water in accordance with the priorities found and determined in the decrees of the courts. In Wyoming the system is somewhat different. In the first place application is made to the state engineer for the right to divert water. This official passes upon the application and if unappropriated water remains in the stream he issues a permit which requires construction to be done within a limited period which may in turn be extended. Thereafter the question of the determination of the right—in other words, the decree—is made by the board of control which consists of the state engineer and the superintendents of irrigation. From this tribunal an appeal lies to the courts.

But regardless of the procedure, both states, and this is true of all the others where irrigation is practiced, found it necessary to provide a system whereby

the rights of the various appropriators could be determined, according to local state law with no reference to the laws of other states, and then the distribution of water governed according to those rights. Wyoming has had an adjudication, we do not know whether it is yet final, of the rights of the appropriators from the Laramie river in that state. To this proceeding Colorado was not a party, nor could it have been a party, neither could any of the appropriators in Colorado have been parties. Likewise the appropriations from the Laramie river in Colorado have been adjudicated by the courts of this state and to these proceedings neither the state of Wyoming nor the appropriators of water in Wyoming could have been parties.

There is therefore, no judicial determination of the rights of the respective appropriators in the two states, neither are the rights of the individual appropriators in the two states involved in this cause except as they become so through the sovereign states to which they respectively belong. Congress, even assuming that it has jurisdiction in the matter (which we do not concede) has provided no method whatsoever for determination of the rights of these individual appropriators except as their rights may be properly adjudicated in the courts of equity of the United States. It is therefore pertinent to ask, if priority of right regardless of state lines is the principle of law which governs this controversy, how are the rights of the respective individuals to be determined, having due regard to the conflicting laws of each state, and after determination how are they to be enforced. Possibly this Court might appoint an officer or direct a United States Marshall to organize a body of men to police the stream and divide the water according to the priorities which this Court might undertake to

adjudicate, but the very suggestion shows the absurdity of the contention. No such procedure was ever in contemplation either by congress or by the respective states where water is used for irrigation. The entire adjudication and administration of priorities is founded and has been constructed on the theory of state control and is utterly in conflict with any other theory. Manifestly the doctrine of priority of appropriation does not adapt itself to interstate questions. The machinery for its administration has never been in contemplation of the Federal Government and we believe, could not be without Constitutional amendment, and no method has been provided either for the adjudication of these individual rights or for the administration of the system thereafter.

No decree, adjudicating the rights of the individual appropriators, or of the various ditches and reservoirs, could be drawn based upon the evidence introduced in this case for the reason that the same is wholly inadequate for any such purpose.

**(4) ADMINISTRATION BY PRIORITY OF
APPROPRIATION IMPRACTICABLE.**

(a) Appropriation by Canals.

Diversion and uses of water under the rule of priority require the most rigid police regulation even in their simplest form, viz: by ditches for immediate application to lands. Many factors enter into this administration which are not revealed by the mere assertion of the simple rule of "first in time first in right".

The fundamental basis of the rule of priority of appropriation is beneficial use. The right to divert is usufructuary to the uttermost degree. Beneficial use gives the right and the instant beneficial use ceases the right terminates. The mere fact that a

canal has been constructed and lands have been irrigated does not determine that the appropriator is entitled to take water from the stream to the full capacity of the canal so long as he may wish so to do. The capacity of the canal is but the outside limit to which he may go in diverting the water of the stream under his usufructuary right and the quantity which he has the right to divert is first, and last, determined by the actual necessities of the lands to be served. This necessity in turn varies from day to day and year to year, with the difference in seasons and ever varying natural conditions, and necessarily, is as varied as the climatic and other conditions in different regions.

The appropriator's right to divert is further limited to his established uses. These established uses are measured not by the capacity of his ditch but by his previous diversions, measured by time as well as by quantity, and he is not permitted to enlarge his demands upon the stream, even within the capacity of his already established ditch, either as to time or quantity of flow, so as to deplete the supply which theretofore has passed to junior appropriators, and, in turn, the appropriation is confined to the time of the year in which the use has occurred and after which the junior has enjoyed the stream for his purposes.

- Cache la Poudre Res. Co. vs. Water
Supply & Storage Co., 25 Colo. 161;
Seven Lakes Res. Co. vs. New Loveland
& Greeley Irr. & L. Co. 40 Colo.
382;
Woods vs. Sargent, 43 Colo. 268;
Colo. Mill & Elev. Co. vs. Larimer &
Weld Irr. Co. 26 Colo. 47.

Each junior appropriator has a right to have the conditions on the stream remain as they were when he initiated his appropriation and the senior appropriator, irrespective of the size of his ditch, cannot enlarge his demands upon the stream either in time or quantity to the detriment of a junior.

Vogel vs. Minn. Canal & Res. Co. 47

Colo. 534;

Comstock vs. Ramsey, 55 Colo. 244.

Beneficial use being the basis and extent of the right of the appropriator, irrespective of the size of his ditch or the maximum quantity which his decrees permit him to divert, he cannot divert water from the stream and permit the same to be wasted and his right to divert is necessarily limited to that quantity required to supply his established and present necessities at the particular time the diversion is made and the extent of this necessity determines the quantity which may be diverted. If he attempts to divert more water than his immediate necessities require the water official must cut off his diversion at the source to the extent of the excess diversion.

Wyo. Comp. Stat., 1910, Sec. 741, p. 252; Sec. 802, p. 266;

Farm Inv. Co. vs. Carpenter, 9 Wyo. 110, 125;

Ryan vs. Tutty, 13 Wyo. 130;

X. Y. Irr. D. Co. vs. Buffalo Creek Irr. Co., 25 Colo. 529;

Ft. Lyons Canal Co. vs. Chew, 39 Colo. 392;

Town of Sterling vs. Pawnee Ditch Extension Co., 42 Colo. 421.

All appropriations on every tributary, as well as those from the principal stream, must be considered

in order that the appropriations upon the stream as a whole may be so administered as to supply the needs of each appropriator and at the same time prevent waste of the valuable natural resource, the water.

Strickler vs. Colorado Springs, 16 Colo.
285.

The above cited statutes of Wyoming provide in part as follows:

“Rights to the use of water shall be limited and restricted to so much thereof as may be necessarily used for irrigation or other beneficial purposes as aforesaid; irrespective of the carrying capacity of the ditch, and all the balance of the water not so appropriated shall be allowed to run in the natural stream from which such ditch draws its supply of water, and shall not be considered as having been appropriated thereby;

Said water commissioner shall, as near as may be, divide, regulate and control the use of the water of all streams within his district by such closing or partial closing of the headgates as will prevent the waste of water or its use in excess of the volume to which the appropriator is lawfully entitled.”

The authorities above cited are to the same effect.

The conditions are further complicated by the rules and laws obtaining in each of the states, wherein the fundamental doctrine of prior appropriation obtains, and *in no two of them are the rights ac-*

quired under the doctrine of the same character or controlled by the same limitations.

For illustration in Colorado the beneficial use of the water is not confined to any specific lands and the appropriator may change the place of application so long as he does not by so doing increase the draft upon the stream either as to the time of the diversion, the duration thereof or the quantity diverted.

Seven Lakes Res. Co. vs. New Loveland & Greeley Irr. & L. Co., 40 Colo. 382;

Diez vs. Hartbauer, 46 Colo. 599;

Ironstone Ditch Co. vs. Ashenfelter, 57 Colo. 31.

In Wyoming, on the other hand the use of the water is limited to a specific tract of land, to which it is made appurtenant and the appropriator is limited to the use of water upon this particular tract, furthermore the maximum amount of the diversion is limited to 1 cubic foot of water per second of time to 70 acres of land.

Wyoming Comp. Stat. 1910, Sec. 724,
p. 247.

The foregoing are but a few of the many limitations that attach to the use of water by canals under the rule of prior appropriation, and in order that the greatest benefit to the state and people may be obtained, and none of this valuable resource may be wasted, an organized policing of the streams is required. Where there is an abundance of water little supervision is required but in regions where the demands are great and the quantity limited the administration of the streams becomes a most complicated and trying problem. Each tributary stream has its water commissioner and many deputies and, in turn,

the various water commissioners of all the tributaries are under the supervision of division chiefs or engineers and these in turn under the direct supervision of a State Engineer, who is the chief police officer of the state. The purpose of these various officials and the extent of their respective jurisdictions, varies with the laws of each state according to the local conditions and necessities of the people.

The difficulties presented by the different degrees of vigilance upon the part of the officers and the different methods obtaining within different jurisdictions, may well be illustrated by the prevention of waste in the Cache la Poudre valley in Colorado (where water is scarce and valuable) and the indifference to enormous waste on the Laramie Plains in Wyoming (where water is over abundant and of less value).

(a-1) Waste of Water—Conflict of Administration.

We have observed that both in Wyoming and Colorado waste of water is forbidden. The need of the appropriator determines the extent of his right and, if he has no actual need, the water must not be diverted no matter what the capacity of his ditch or the amount of his decree. Mere subterfuge or pretext for use do not take the place of actual need and the appropriator is limited to his actual necessities and the use of water without waste.

When we speak of "waste", we refer to the unnecessary loss of water and not to the loss always incident to proper diversion and storage. Loss of water by seepage and evaporation in canals when in use to supply the actual needs of the farmer and from reservoirs during the periods of storage, is an incidental and unavoidable loss, which is not "waste"

within the meaning of the term as we use it. The loss incident to the storage and delivery of water through the inter-watershed storage and diversion system of the Wheatland enterprise in Wyoming would, like the incidental loss on the similar tunnel project in Colorado, be unavoidable and is the same character of unavoidable loss that occurs in all irrigation. The evaporation from the Wheatland Reservoir alone is conceded by Wyoming witnesses to be not less than five (5) ft. in depth each year, but this loss, as well as that occasioned by the use of water-ways and long canals for carriage of water to lands, is no more a waste than is the same character of a loss with the Greeley-Poudre system or any other irrigation system.

Necessity for water is so great in the Cache la Poudre valley that Colorado and her citizens have been compelled at the cost of more than a million dollars to drive the Greeley-Poudre Tunnel, here involved, in order to obtain but a relatively small portion of the water of the Colorado portion of the Laramie and it requires several million dollars more to store and deliver the water. Waste is not tolerated under the Colorado system of administration of priorities and diversion and distribution is under most rigid supervision at all times.

On the other hand methods of administration in Wyoming are directly the reverse. Water has been so abundant in the Laramie river valley that practically no administration has been required. Each appropriator has been permitted to help himself and to use or waste the water according to his personal whims, with the result that enormous quantities of water are there annually wasted, notwithstanding the claim here made by plaintiff that all waters have been appropriated. So

lax are the methods of administration and so enormous is the unnecessary waste that mere economy in application of water would more than compensate for any possible diminution of the stream by the Colorado tunnel project. (See Marginal pages, printed record, 94, 1110, 1280-4, 1288, 2733-50, 3562-76.)

The lax methods of distribution, and the failure of canal owners to so construct their canals that they may divert water from the river in low stages are well stated by Mr. Grant, Wyoming water commissioner for the Laramie river during the dry year, 1913, on marginal pages 1276-89 inclusive of the printed abstract of record.

In part he said:

“Most of the ditches on the big Laramie river are what you might call two-story ditches; that is they were above the bottom of the creek so they would have to have a dam to divert at low stages. At high water they got all the water they needed.

* * * * *

There were a number of what I called two-story ditches. The average ditch does not cut the bottom of the river. A great many of the ditches are two-story. With a two-story ditch the irrigator obtains all the water he wants when the river is high, but at low stages it requires a dam. At such times the user goes to the head and throws some obstruction in the stream to suit his desires. The change of elevation of water of course makes a change of intake capacity in these two-story ditches. *The irrigators settled their questions themselves; they*

probably would be disgruntled, but didn't bring complaints to my office. From the conditions I noted there on the channel of the river, it looked to me that the same conditions prevailed as they had in the past. (1282-4)

On both the Big and the Little Laramie rivers it is practically physically impossible for any water commissioner to properly apportion the waters with the appliances that exist at the present time. The Little Laramie is better as to headgates than the Big Laramie. *Everything is so crude on both rivers that an apportionment according to the legal rights of the parties is practically out of the question*, unless one has a current meter to measure it, and then it is a matter of a good deal of labor to try to regulate the water. Each rating consumes considerable time and expense. So that, for the *orderly administration* of that water supply the conditions are not there. * * * The Big Laramie is passing through the same history that all streams have passed through until a certain pressure is brought to bear on them, when they have to put in certain devices to regulate the water." (1288-89.)

Engineer Woodhall on marginal pages 2733-51 describes the conditions prevailing upon the Laramie Plains as compared with those obtaining in the Poudre valley. He describes in detail the enormous and unnecessary waste of water obtaining on the Laramie Plains during the dry season of 1913. He recites the deliberate diversion by large canals of great quantities of water on mere pretext for use

and subsequent discharge thereof into great evaporation basins, where there was no return to any stream. (2741-3.) In December, 1913, two large canals of the Little Laramie river, under pretext of domestic use for watering a few head of stock, were diverting to three-fourths their capacity and discharging the water into Big Basin, a waste lake some 75 feet lower than the river, there to remain until evaporated (2741). He also described a similar condition under the Big Laramie canals, including the Pioneer canal and the recently constructed Lake Hattie Reservoir system (2743-50).

So abundant has been the supply of water from the Laramie River that it has become the custom of the residents of the Laramie Plains to run water in their ditches indefinitely under pretext of supplying water to live stock notwithstanding the enormous and unnecessary waste. This is well illustrated by the case of the Pioneer Canal (the large canal on the Big Laramie River heading not far below the interstate line). Mr. E. D. Titus had been superintendent of the canal for 15 years (858). By July 15 all necessity for irrigation under the canal ceases (866). The area under the canal is well supplied with wells (867) and is a region of lakes and ponds formed by unnecessary waste of water. Notwithstanding these conditions, it has been the prevailing custom to run from 50 to 60 cubic feet of water continuously from July 15 into December of each year for the sole alleged purpose of supplying drinking water to about 2,000 head of cattle running at large in that vicinity, and possibly (but not probably) a few of the 250 people residing under the canal. Mr. Titus states:

“They keep water running on the meadows from the time I turn it on until they shut it off. After that I do not run a large

head of water, because there is no demand, but *I keep running water into December for domestic and stock use.* * * * *

*After they have ceased irrigating I would run as low as 50 second feet or 60, enough to carry through to the lower end—for watering these cattle and people. Very little water went back to the river or into the numerous lakes. * * * The people and stock and seepage and evaporation consumed this 50 second feet running constantly.” (867-8)*

(Note: This reference erroneously given as at p. 967, Vol. II., p. 196, orig. brief.)

Computation reveals:—One cubic foot per second delivers 2 acre feet every 24 hours; 50 cubic feet per second equals 100 acre feet per day, which, running for 150 days, would make a total of 15,000 acre feet of water needlessly diverted by the Pioneer Canal each year under pretext of furnishing drinking water for a few people and cattle in a region already filled with wells, lakes and ponds.

John E. Field, former state engineer of Colorado, and an expert of national repute, describes the lack of administration on the Laramie River in Wyoming on marginal pages 3562-76 of the record and also compares the conditions in that region with those of the Cache la Poudre valley. He attributes the enormous waste in Wyoming region to the great abundance of water, no actual shortage ever having been felt, and the custom prevailing of each appropriator helping himself irrespective of his needs (94, 1110), without necessity of supervision or of attempt to control the diversions. By way of illustration he computed the loss by mere evaporation from the un-

necessary waste lakes and ponds on the Laramie Plains into which water is permitted to discharge never again to be used, and concludes by saying:

“Unnecessay loss fom evaporation on the Laramie Plains is equal to or greater than the proposed diversion of the Greeley-Poudre Irrigation District from the Laramie River. This proposed diversion, under the present construction, I stated to be about 56,000 acre feet per annum in normal years. 60,000 acre feet per annum are calculated to be the unnecessary loss and waste of water by methods employed on the Laramie Plains. (3575)

If Wyoming appropriators would eliminate the unnecessary waste on the Laramie Plains region alone, it would result in a saving of more than enough water to supply the entire diversions of the Greeley-Poudre system from the Laramie River.” (3576)

The foregoing quotations, of the many available in the record, will serve to illustrate the conditions that confront the one item of unnecessary waste included within the general administration of diversion and distribution of water by priority of appropriation irrespective of state lines. Wyoming here asserts that she has made prior appropriation of all the waters of the Laramie River, including those which rise in Colorado, and in her supplemental brief tabulates the canals and reservoirs by means of which she contends she made appropriation prior to the initiation of the Greeley-Poudre project (August 25, 1902). Wyoming, however, has made no attempt to regulate and administer the diversions made by

her canals and has made no effort to curtail unnecessary waste. She insists that conditions shall continue upon that river as they have in the past, if this were not so, no claim would here be made that all the waters are necessary to supply the demands of her alleged prior canals for, as we have observed, elimination of unnecessary waste would more than compensate for any depletion of the river by reason of the Colorado tunnel diversion. In other words, she insists that she be permitted to continue to both waste and use; that she has a prior right so to do, and that Colorado shall be prohibited from diverting any water for the imperative necessities of her people, which diversion may interfere with accustomed waste and use of the waters of the stream by Wyoming.

Administration of diversions of water under the rule of priority of appropriation, irrespective of state lines, would be confronted at the outset with the foregoing conditions. And the question of the means or method by which this problem could be solved naturally presents itself. Wyoming would doubtless insist, as she does here, that her appropriators would have a right to continue to both waste and use in the future as in the past, while Colorado would insist that she had a right to divert irrespective of the claims of Wyoming.

We do not venture to speculate upon the means or method by which this controversy could be determined and thereafter regulated. Neither state would have any right beyond its own borders, and its laws or the decisions of its court would have no extra-territorial force or effect. Both states deny foreign servitudes, and there could be no assumption of reciprocal easements. The conflict would be irreconcilable. If Wyoming were adjudged the right to continue in the future as in the past (and such is her

assertion) then acres of thirsty land in Colorado would remain unproductive. The one state, like the prodigal son, would waste the common asset in riotous living and extravagance, while the other member of the family of states would go in want. Yet who in such a case would be the final judge and who would enforce the final order?

(a-2) Enlarged Demand to Junior's Detriment.

The conflict of administration is further illustrated by enlarged demands upon the stream by a senior appropriator to the detriment of a junior. As above noted, the appropriator is limited by his actual needs and the previous use of the water to supply those needs, irrespective of the size of his canal or the amount of his decree, both of which but fix the maximum to which his diversion may go in any event, and further, that he may not enlarge his demands upon the stream, under pretext of his prior appropriation, either in time or quantity, to the detriment of a junior, who is entitled to have the conditions upon the stream remain as they were when his right was initiated. If the senior is permitted to change these conditions by diverting a larger quantity of water or for a longer period of time than he had theretofore, the supply of the stream is cut off from the junior to the extent of the enlarged draft. Such problems constantly confront the state administration of priorities.

Perhaps no better illustration of such an enlarged demand could be found than that asserted, with some semblance of seriousness, by Wyoming in this case. According to plaintiff's Exhibit N, the decree of adjudication upon the Laramie River, and the tabulation appearing in plaintiff's supplemental

brief, pp. 24-5, the Pioneer Canal, diverting water from the Big Laramie River not far below the interstate line, was decreed appropriations as of 1879 and 1884, respectively. By the terms of the decree (Ex. N), the canal was awarded appropriation for 49,030 acres of land, although the evidence showed that never more than 15,000 acres had been irrigated, and in 1913 the canal was serving about 11,556 acres (824, 844 plaintiff's supp. brief, p. 20). Promoters entered the Wyoming area in the spring of 1908 and thereafter initiated and constructed the new Lake Hattie enterprise and enlarged the upper portion of the old Pioneer Canal for joint use by the new enterprise (see pp. 202-221, Vol. II, def. orig. brief and tables). In 1912 the then owners of the new Lake Hattie system, finding themselves with a large reservoir on their hands but with limited lands capable of service, conceived the idea of in effect taking the waters of that lake to the higher levels by a system of exchange by which they would discharge into the river below the reservoir an amount of water equivalent to that which they would take directly from the stream by means of the higher line of canal in contemplation. They accordingly caused a survey to be made and on July 11, 1912, made filing for which permit No. 2719 enl. was granted on July 3, 1913, permitting the exchange of water, but specifically providing that no additional draft should be made upon the stream than that authorized by previous permit 8612, filed April 21, 1908, by the same appropriators. (See cert. copy of permit, def. Ex. No. 160.)

Notwithstanding the above facts the State of Wyoming sought to cloud the situation in this case by attempting to show some possible, though not actual, connection between this new survey line of 1912 and the old Pioneer Canal, and also certain dis-

connected "fly line" surveys that had been run within a general vicinity, covering an area of 25 miles, by independent engineers in the years previous and thereby evidently intended to leave the impression that the new Pioneer High Line, if ever built, would be entitled to demand water from the stream as of the date of the original Pioneer Canal.

We discussed this situation in Vol. II of defendants' original brief, pp. 234-53, wherein the survey line is designated the "Mythical Pioneer High Line Canal," by reason of the fact that to this day the whole project has never progressed beyond a mere survey line followed by a permit issued in 1913. On pages 37-9 of plaintiff's supp. brief this mere survey line is still treated as a possible claim under color of the original appropriation of the Pioneer Canal, thereby to cloud the intervening claim of the Greeley-Poudre system of Colorado, initiated August 25, 1902. In other words, in effect the plaintiff would leave the impression that it was entitled to claim an enlarged draft upon the river by virtue of the Lake Hattie system and this survey line to the depletion of the stream and the detriment of the junior.

Let us assume for purpose of argument that the Wyoming authorities should hereafter permit the new Lake Hattie system, initiated in 1908, and the Pioneer High Line Canal survey, initiated in 1912, to claim and divert water from the Laramie River under color of the original Pioneer appropriations of 1879 and 1884, while, on the other hand, Colorado and her citizens should insist upon the right to divert water from the upper branches of the stream in that state by the tunnel system, under priority of August 25, 1902, as determined and fixed by her District Court (plff's. Ex. No. 179). An irreconcilable conflict would at once arise, and while it is the unques-

tioned rule that a senior cannot lawfully enlarge his demand upon the stream either in time or quantity to the detriment of a junior, nevertheless such would be the situation, and, while in this instance the geographical position of the junior upon the stream would permit it to take the water and defy the senior in its enlarged demands, yet in the final end the problem would have to be met and solved by some one. The power of neither state would extend beyond its borders, no state official would have authority to adjust the controversy, and the Constitution neither directly nor by implication grants any such authority to Congress. How or by whom the controversy would be settled and the order enforced would be an open question. If necessity should require this Court to settle such a controversy then it would be made the tribunal for the settlement of all controversies between individual appropriators wherever occurring and the burden heretofore borne by the courts of the several states would be transferred *en masse*. It is very evident that the state courts, understanding as they do the local conditions and necessities, are in a better position to adjust the conflict between individual appropriators than would any other courts of the land. But if priorities must obtain irrespective of state lines, then the local courts would be shorn of their jurisdiction and some other court or tribunal would of necessity assume the task.

(b) Appropriation by Reservoirs—Exchanges.

Thus far we have considered but the most elementary principles governing the simpler diversions by ditches. When, however, the use of water, diverted from the river and temporarily stored on its way to the land, enters the problem, the administra-

tion becomes doubly complicated and immediately there occurs what is termed an "exchange" system whereby a junior reservoir may turn a definite quantity of water into the stream above the headgate of some lower but senior appropriator and take in return an equivalent amount from the stream through some higher but junior ditch controlled by the reservoir people, thereby compensating for the depletion of the stream by the junior. This in turn, repeats itself and intermediate loans and exchanges are so made that frequently the most junior but upper ditch upon the stream is taking the water of the most senior but lowest ditch, and yet, in turn, the quantity of water which the junior turns from its reservoir to compensate for the depletion is re-loaned and exchanged several times in such a manner that finally the depletion is compensated by still other reservoirs which have taken the water delivered to the stream for the first exchange. Under this system, necessary to obtain the greatest beneficial use from the water, a complicated system of accounting is necessary and the office of the water commissioner comes to be sort of clearing house for the stream, debiting and crediting as each exchange occurs, and each of the water commissioner districts in turn is compelled to carry on its system of diversions and exchanges in such a manner as not to infringe upon appropriations lower down along the principal stream or upon any of its tributaries which may be affected.

These systems of administration are the natural development of half a century of legislation and administrative experience and vary not only in each state, but even to some degree in the districts within the states, according to the natural conditions obtaining and the necessities of the people. Each pressing necessity demands still more complicated adminis-

tration and the present system is but the beginning of what is yet to come.

This more perfect development demands the most exacting local administration, always open to immediate regulation by local courts, by officials not alone familiar with the conditions and necessities of the community, but as well responsive to the people and the state, and not to some distant authority unfamiliar with local conditions and unable to afford such immediate relief or correction as may be required in order to obtain the maximum benefits from the use of the water in the production of crops.

If such exchanges were undertaken upon an interstate scale, this efficiency would not only be reduced by the complications that must inevitably arise and must then be settled by more remote authority, but even more, the problem would be, by what authority? The administration would, at best, require as great a force of local supervisory officials in all parts of the states through which the stream should pass, but how such could be appointed and under whom they should act, and, at the same time, be responsive to constant local judicial control, we are unable to conjecture. Add to this the conflict of state laws and the problem becomes incapable of solution.

(c) Other Considerations—Conclusion.

To continue the discussion of the various limitations of the right of the appropriator and the necessary details of correct administration would occupy many pages of this brief. Suffice it appears, however, for our present purposes.

To clearly understand the inevitable result of the application of priority irrespective of state lines,

in view of what we have just said, the conditions upon the Platte River in Colorado, Wyoming and Nebraska will serve as a good example.

A sketch map of the Platte River appears in the upper left-hand corner of the large map (Ex. 1) attached to the answers of the corporate defendants. The Platte River enters the Missouri at the eastern boundary of Nebraska. Passing up stream through Nebraska, it divides into two branches at the city of North Platte. The north branch (North Platte) continues northwesterly into Wyoming, through that state and thence southerly into North Park, Colorado, where it has its principal source. The south branch (South Platte) continues through western Nebraska and northeastern Colorado to South Park near the center of the state. This south branch receives its waters from many tributary streams from the mountains of Colorado. Included within the drainage area of the north branch is the Laramie River, which has its source partly in Colorado and partly in Wyoming, and thence flows into the north branch at old Ft. Laramie. The diversion here in controversy is from one tributary of the north branch of the river through an intervening divide to a tributary of the south branch of the same stream. The various ditches and reservoirs upon this stream will serve to illustrate the conditions which confront an administration of the waters of a stream and its tributaries, according to the rule of priority of appropriation irrespective of state lines.

Purely by way of illustration and outside the record, we observe that the public records of the State Engineer of Colorado reveal the following number of decreed water rights from the south branch of the Platte in that state:

Decreed Water Rights—South Platte Drainage.

River.	Water District.	Ditches.	Reser-voirs.
South Platte	No. 1	221	120
South Platte	No. 2	80	30
South Platte	No. 23	478	18
South Platte	No. 64	64	6
Cache la Poudre...	No. 3	110	56
Thompson	No. 4	81	18
St. Vrain	No. 5	173	55
Boulder	No. 6	122	34
Clear Creek	No. 7	105	24
Plum Creek	No. 8	210	25
Bear Creek	No. 9	31	9
Total		1,675	325

The same records reveal the following number of decreed water rights within the north branch of the Platte in that state:

Decreed Water Rights—North Platte River Drainage.

River.	Water District.	Ditches.	Reser-voirs.
North Platte	No. 46	177	2
North Platte	No. 47	388	2
Laramie	No. 48	90	19
Total		655	23

From the foregoing tables it appears that there are 2,330 decreed ditches and 348 decreed reservoirs from the Platte River (both branches) in Colorado.

The public records of the State Engineer of that state further reveal that there are claims for incomplete appropriations in excess of those already decreed, but consideration of these is unnecessary for the purposes of this illustration.

It is safe to assume that the decreed rights from the North Platte branch in Wyoming are far in excess, numerically, of those in Colorado. Plaintiffs' Exhibit N (a compilation of the decreed rights on the Laramie River in Wyoming) reveals 483 decreed rights upon the Laramie River and tributaries in that State and, for purpose of illustration, we feel warranted in saying that probably not less than 1,000 ditches and reservoirs have been decreed from the North Platte and tributaries in Wyoming. The evidence in this case shows that several large enterprises dating not earlier than 1908-9 have been completed or are in the process of construction within the Laramie River branch and the published reports of the office of the State Engineer of Wyoming likewise show that hundreds of permits have been issued for projects in the North Platte drainage not yet decreed. We shall pass these undecreed appropriations in the same manner we have those in Colorado.

The published reports of the office of the state engineer of Nebraska show a large number of decreed reservoirs and ditches within the Platte River drainage (both branches) in that state and we feel warranted in assuming that not less than 300 diversions, large and small, are there decreed.

The sum total of the foregoing figures reveals that administration under the rule of priority, irrespective of state lines, would require readjudication

and police regulation of upwards of 4,000 diversions already established and decreed by state authorities upon the Platte River alone and, in the years to come, probably a like number of new and now more or less incomplete enterprises.

In view of the fact that the right of the appropriator is not defined by the capacity of his ditch or the maximum amount awarded him in his decree but is limited to his actual necessities during each day of the year and that his diversions must constantly be regulated and restricted to the extent of his then present necessities, and further in view of the complicated conditions arising from exchanges and other administrative features existing upon each of the tributaries as well as upon the stream itself, it is self-evident that the difficulties confronting interstate administration of the Platte River would become so involved that to give each appropriator his just dues and no more and at the particular time his necessities demand, would be next to impossible. If such should be declared to be the rule, the rights of all must be protected and enforced, the least must receive the same consideration as the greatest and that too at the particular time when the crop demands water in order that loss may be avoided.

Yet no state official has power to control the regulation beyond his own borders or other than as prescribed by local laws, rules and regulations. No state court or tribunal has power to fix by decree rights of appropriation in other states, to adjust conflicting claims, or to determine from day to day the rights of foreign users. The system prevailing in one state is so different from that of a neighboring state that irreconcilable conflict is inevitable. The problem presented under one system of state law is, at best, difficult and involved, but where a conflict of

laws would enter, the problem of administration would be incapable of solution.

In order to take the initial step toward administration of the rule, all of the states would be compelled to repeal their present laws, rules and regulations and to adopt one uniform system *irrespective of local conditions or necessities*. But this may not be done without the voluntary consent of all, neither state may legislate for the other and Congress can legislate for none.

“Neither state can legislate for or impose its own policy upon the other.

Congress cannot enforce either rule upon any state.”

Kansas vs. Colorado, 206 U. S. 46, 94,
95.

If this court should decide that the private usufructuary rights of the individual appropriators preclude the states from asserting greater rights to the river and that priority shall obtain irrespective of state lines, then such rights must be adjudicated by the court in this and similar cases. This would necessitate a determination not of the rights of the states, but of *each individual claimant* and the rights of each, great or small, would have to be separately considered and passed upon. The mere suggestion of the problem portrays the insurmountable obstacles to be encountered.

The decrees of the state courts bind only those within their jurisdiction.

Pennoyer vs. Neff, 95 U. S. 714.

(See *supra*, p. 257 to 262).

We refuse to recognize Wyoming decrees and they ours.

What court, other than this, could enter upon such an adjudication?

Even should this court undertake this individual adjudication, its enforcement would next confront us. Shall an army of United States marshals police the stream and regulate the diversions? No state officials have power to enforce other than the laws and decrees of their own state.

Then too, conditions are constantly changing. New rules and laws of one character may become imperative in Colorado but Nebraska or Wyoming need new laws entirely the reverse of those required in Colorado. Who then shall enact these laws? The subject is no longer within the control of the states because their jurisdiction has been denied them. Congress cannot legislate, for it has no power so to do. (206 U. S. 90-92.) The canals divert waters from streams washing lands long since passed into private hands and not public lands of the United States. This court cannot legislate. Who then shall remedy the evil or supply the new rule? The United States asserted the right so to do but this court declared the contrary. (206 U. S. 85-93)

Further pursuit of this line would be but to multiply indefinitely the examples of questions such a rule of law would provoke and but further reveal the conflict of jurisdiction. Problems unheard of today will clamor for recognition and solution on the morrow. But fifty years ago Colorado was an arid waste. Today more than 3,000,000 acres of land are productive to an intensive degree, through irrigation fostered, protected, encouraged and regulated by the state. What another fifty years will bring we can but conjecture. Very evidently, in the language of Mr. Justice Field:

“It is, therefore, a matter of good sense and practical wisdom to leave their control and management with the states.”

Escanaba Co. vs. Chicago, 107 U. S.
678, 688.

(5) **Prior Appropriations Restricted by State Lines.**

Without reviewing the preceding pages and the various subdivisions of the discussion of both the law and administration of the general principles of the prior appropriation, we conclude: That the doctrine of prior appropriation is one of private usufructuary property law *intra-state* in its character, varying in each of the states where adopted according to the local conditions and necessities and exactly alike in no two thereof; that it is inequitable and inapplicable either as a rule of law or administration for *interstate* regulation of streams, and that the general principles of appropriation cannot apply in the settlement of controversies involving the rights of sovereign states.

VII.—BY WHAT PRINCIPLES THE CASE IS TO BE CONTROLLED.

In the previous pages we have discussed at length that part of the first subdivision of the order for reargument which reads:

“whether the rights asserted are to be tested and determined solely by the application of the general principles of prior appropriation, without regard to state boundaries, or whether, on the contrary, the general principles of prior appropriation are subject to be restricted or their operation limited in this case by state lines,”

and have there observed that the general principles of prior appropriation are but rules of private property law for *intra-state* regulation and control of the uses of waters of streams, to be restricted and their operation limited by state lines and that the general principles of appropriation cannot apply to the settlement of controversies involving the rights of states.

Having arrived at the conclusion that "the general principles of prior appropriation are to be restricted or their operation limited in this case by state lines" we are now directed by the order to state "by what principles, under that assumption, the case is to be controlled."

In the opening pages of this brief we observed that this original proceeding is between two states of the Union each asserting sovereign rights, that the rights of the private citizens or appropriators of either of the states are included within the greater right of the state and that if the case against Colorado fails it fails also as against the corporate defendants.

The controversy is one between two sovereign states and rises therefore above a mere suit to determine the rights of the individual appropriators within each of the states; the action complained of is state action and the principles of law which apply between states are not those which would be applied between individuals.

Missouri vs. Illinois, 180 U. S. 208, 242,
200 U. S. 496.

Kansas vs. Colorado, 185 U. S. 125, 206
U. S. 46.

Rickey Land & Cattle Co. vs. Miller &
Lux, 218 U. S. 258.

Bean vs. Morris, 221 U. S. 485.

Georgia vs. Tennessee Copper Co., 206
U. S. 230.

As observed by Mr. Justice Brewer in *Kansas vs. Colorado*, *supra*:

“It is the State of Kansas which invokes the action of this court, charging that through the action of Colorado a large portion of its territory is threatened with disaster. In this respect it is in no manner evading the provisions of the Eleventh Amendment to the Federal Constitution. *It is not acting directly and solely for the benefit of any individual citizen to protect his riparian rights.* Beyond its property rights it has an interest as a state in this large tract of land bordering on the Arkansas river. Its prosperity affects the general welfare of the state. *The controversy rises, therefore, above a mere question of local private right and involves a matter of state interest, and must be considered from that standpoint.* *Georgia vs. Tennessee Copper Co.*, decided this day, *post*, p. 230.” (206 U. S. 99.)

It is well to observe at the outset that the rule of interstate servitudes or easements cannot here apply. Neither state recognizes and on the contrary repudiates any such, whether asserted under the private usufructuary doctrine of appropriation, or otherwise. Such extra-territorial easements or servitudes are thus referred to in the cases:

“But it does not follow that every matter which would warrant a resort to equity by one citizen against another in the same

jurisdiction equally would warrant an interference by this court with the action of a state. It hardly can be that we should be justified in declaring statutes ordaining such action void in every instance where the Circuit Court might intervene in a private suit, upon no other ground than analogy to some selected system of municipal law, and the fact that we have jurisdiction over controversies between states.

The nearest analogy would be found in those cases in which an easement has been declared in favor of land in one state over land in another. But there the right is recognized on the assumption of a concurrence between the two states, the one, so to speak, offering the right, the other permitting it to be accepted. *Manville Co. vs. Worcester*, 138 Massachusetts, 89. *But when the state itself is concerned and by its legislation expressly repudiates the right set up, an entirely different question is presented."*

Missouri vs. Illinois, 200 U. S. 496, 521.

"When a right is asserted in favor of land in one jurisdiction over land in another, different principles are involved from those that suffice when both parcels are subject to the same law. When such rights have been recognized it has been on the ground of an assumed concurrence between the two states, the one, so to speak, offering the right, the other permitting it to be accepted. *Manville Co. vs. Worcester*, 138 Massachusetts, 89. *Missouri vs. Illinois* 200 U. S. 496, 521. But still there are two parcels of land subject to different systems

of law; and although the rights and liabilities in respect of each may require a consideration of the other if they are to be dealt with completely, the fact remains that each may be regulated by the state where the land lies *according to its sovereign will*. *Kansas vs. Colorado*, 206 U. S. 46, 93."

Rickey Land & Cattle Co. vs. Miller & Lux, 218 U. S. 258, 260.

"* * * we pass at once to the question of *private* water rights as between users in different states.

We know no reason to doubt, and we assume, that, subject to such rights as the lower state might be denied by this court to have, and to vested private rights, if any, protected by the Constitution, the state of Montana has full legislative power over Sage Creek while it flows within that state. *Kansas vs. Colorado*, 206 U. S. 46, 93-95. Therefore, subject to the same qualifications, we assume that the concurrence of the laws of Montana with those of Wyoming is necessary to create easements, or such private rights and obligations as are in dispute, across their common boundary line. *Missouri vs. Illinois*, 200 U. S. 496, 521. *Rickey Land & Cattle Co. vs. Miller & Lux*, 218 U. S. 258, 260. But with regard to such rights as came into question in the older states, we believe that it always was assumed, *in the absence of legislation* to the contrary, that the states were willing to ignore boundaries, and allowed the same rights to be acquired from outside the state

that could be acquired from within. *Manville vs. Worcester*, 138 Mass. 89 (and other cases)."

Bean vs. Morris, 221 U. S. 485, 486.

The same general qualification appears within each of the foregoing. In *Missouri vs. Illinois*:

"But when the state itself is concerned and by its legislation expressly repudiates right set up, an *entirely different* question is presented." (200 U. S. 521).

In *Rickey Land & Cattle Co. vs. Miller & Lux*:

"Each may be regulated by the state where the land lies according to its sovereign will. (p. 260)

But whatever this court may decide, *if a private owner should derive advantage from such a decision it would not be in his own right, but by reason of and subordinate to the rights of his state*, and those rights, the petitioner insists, can, or at least should be, determined only in a suit brought by the state itself." (p. 261.)

And in *Bean vs. Morris*:

"We believe that it was always assumed *in absence of legislation to the contrary*, that the states were willing to ignore boundaries, etc." (p. 487)

Here, however, "the state itself is concerned and by its legislation expressly repudiates the right set up" and Colorado repudiates the right as well by her answer herein as by her constitution, laws and the decisions of her courts and "an entirely different question is presented" Colorado asserting that the

part of her domain "may be regulated by the state where the land lays according to its sovereign will," and there is no "absence of legislation to the contrary."

As stated by Mr. Justice Campbell:

"The state has never relinquished its right of ownership and claim to the waters of our natural streams, though it has granted to its citizens, upon prescribed conditions, the right to the use of such waters for beneficial purposes and within its own boundaries. The property right, however, in the natural streams, and the waters flowing therein, has never been renounced or relinquished by the state, and it has at all times asserted not only its right of ownership, but the unrestrained right, within its own boundaries, to distribute its waters to those who have, under its authority, acquired, by perfected appropriations, the right to their use.

This constitution of ours was ratified and adopted by the legal voters of the state in accordance with the conditions prescribed by the enabling act of congress, and the president of the United States in his proclamation admitting Colorado into the Union found the fact to be that the fundamental conditions imposed by congress on the State of Colorado to entitle it to such admission had been complied with. Congress, in passing the enabling act, and the President, in issuing his proclamation, were aware of the existing physical conditions and of the topography and geography of the state. The federal government, by its lawmaking and

executive bodies, knew that the natural streams of this state are, in fact, non-navigable within its territorial limits, and practically all of them have their sources within its own boundaries, and that no stream of any importance whose source is without those boundaries, flows into or through this state. The entire volume of these streams is therefore made up of rains and snows that fall upon the surface of lands included within the exterior lines of this state and of springs which issue from the earth within the same area. Such being the peculiar conditions, the state was justified in asserting its ownership of all the natural streams within its boundaries. When Colorado was admitted into the Union with such a constitution, the federal government, through its lawmaking and executive departments, thereby recognized and confirmed such right of ownership as belonging to the state in its sovereign capacity. We therefore find it to be not only that our state constitution and pertinent statutes, but the decisions of the courts and duly announced public policy, all are in accord on the proposition to which the federal government has, as we have just shown, given its consent that the waters of the natural streams of this state belong to the people, to the state, in its sovereign capacity, *and that its right to their distribution and control within its borders is free from any interference by any other sovereignty.*

There is nothing in *Lamson vs. Vailes*, 27 Colo. 201, 61 Pac. 231, at all inconsistent

with this conclusion. In that case this court declined to pass on the question which is involved in the pending action, because it was not necessary to the decision of that controversy. This court, by then withholding expression of opinion, did not intend to intimate, and did not intimate, that this state did not have full control over its natural streams and the distribution of their waters. The right of congress to regulate and control navigable interstate streams and the jurisdiction of the Supreme Court of the United States to determine, in a controversy between two or more sovereign states over the waters of an interstate stream, whether they are reasonably exercising their inherent powers of sovereignty, are not overlooked or questioned by us; but these considerations do not, for the reasons above stated, affect or bear upon the right of ownership and control by Colorado of its own natural streams, and its power and authority to regulate the distribution of their waters, within its own territory, for beneficial purposes. We find nothing in *United States v. Rio Grande Irrigation Co.*, 174 U. S. 690, 19 Sup. Ct. 770, 43 L. Ed. 1136; *Kansas v. Colorado*, 206 U. S. 46, 27 Sup. Ct. 655, 51 L. Ed. 956; *Rickey L. & C. Co. v. Miller & Lux*, 218 U. S. 258, 31 Sup. Ct. 11, 54 L. Ed. 1032; *Bean v. Morris*, 221 U. S. 485, 31 Sup. Ct. 703, 55 L. Ed. 821, or in any other case that has been brought to our attention, which militates against our conclusion, when these cases are considered, as they should

be, in connection with the facts on which they were determined. We therefore conclude that the general assembly, in order to protect the rights of the state in our natural streams and their waters, and the interests which its citizens have acquired thereunder, may make a valid appropriation of money for the purpose of protecting and defending them."

Stockman v. Leddy, 55 Colo. 24, 28.

Colorado has by statute affirmed the doctrine steadfastly adhered to by her from the date of her admission, repudiating any and all claims of other states to her waters or any portion thereof.

See S. L. Colo. 1917, Chap. 151, p. 539.

Wyoming likewise has denied and repudiated the doctrine of servitudes or easements across her borders.

Grover Irr. Co. v. Lovella D. Co., 21 Wyo. 204 (see quotation *supra*).

Servitudes or easements across the interstate boundary between the two states, whether under color of the doctrine of priority of appropriation or otherwise, are therefore repudiated by both states, and further discussion of any such doctrine is unnecessary.

The settlement of controversies over the waters of international rivers is usually regarded as one of policy to be adjusted by treaty.

Opinions of Attorneys General, Vol. XXI, 274, 283.

Kansas v. Colorado, 185 U. S. 125, 140, 144.

Kinney on Irrigation & Water Rights (2d Ed.), Vol. 3, p. 2195.

And while the several states of the Union have, by the first clause of Section 10, Article I of the

Constitution, surrendered their powers to enter into any treaty alliance or confederation, by paragraph 2 of the same section they have reserved the right, by "consent of congress," to "enter into any agreement or compact with any other state".

Section 10, Article I, Constitution of
United States.

By the foregoing section it is apparent that the states still have the power, consent of congress having been obtained, to adjust their interstate controversies over rivers by "agreement or compact."

Missouri vs. Illinois, 180 U. S. 208, 238.

200 U. S. 496, 518.

Kansas vs. Colorado, 185 U. S. 125, 140.

Mr. Wiel asserts that such will be the ultimate solution of interstate controversies over streams, saying:

"Between states, each is entitled to have for its prosperity an equitable apportionment of benefits from an interstate stream. Consequently, control of interstate streams is likely to gravitate toward the formation of joint commissions between the states to supervise their use and make regulations."

Wiel on Water Rights, (3rd Ed.) Vol.
1, p. 372.

Yet if independent nations fail to adjust their controversies by treaty their differences would be of such a nature as to justify a settlement by force and the same methods of settlement would apply between states of the Union were it not for the surrender of such power in the Constitution.

Missouri vs. Illinois, 180 U. S. 208, 241;
S. C. 200 U. S. 496, 518.

Kansas vs. Colorado, 185 U. S. 125, 143,
S. C. 206 U. S. 46, 95-7-8.

As stated in *Missouri vs. Illinois*, *supra*:

“If Missouri were an independent and sovereign state all must admit that she could seek a remedy by negotiation, and, that failing by force.” (180 U. S. 241)

By Mr. Justice Brewer in *Kansas vs. Colorado*, *supra*:

“The powers affecting the internal forces of the states not granted to the United States by the Constitution, not prohibited by it to the states, are reserved to the states respectively.” (206 U. S. 90.)

“If the two states were absolutely independent nations it would be settled by treaty or force, neither of these ways being practicable, it must be settled by decision of this court.” (206 U. S. 98).

And as observed by Mr. Justice Holmes in *Missouri vs. Illinois*:

“The nuisance set forth in the bill was one which would be of international importance—a visible change of a great river from a pure stream into a polluted and poisoned ditch. The only question presented was whether as between the states of the Union this court was competent to deal with a situation which, if it arose between independent sovereignties, might lead to war. Whatever differences of opinion there

might be upon matters of detail, the jurisdiction and authority of this court to deal with such a case as that is not open to doubt." (200 U. S. 518.)

It would thus appear that this controversy over a portion of the waters of one branch of an interstate stream is of equal dignity with a controversy between independent nations, and this court is called upon, in this and similar cases, to decide the controversy on the broader grounds of interstate and international law.

Kansas vs. Colorado, 185 U. S. 125, 146;

Id. 206 U. S. 46, 97.

Missouri vs. Illinois, 200 U. S. 496, 520.

As observed by Mr. Justice Brewer in *Kansas vs. Colorado*, *supra*:

"Nor is our jurisdiction ousted, even if, because Kansas and Colorado are states sovereign and independent in local matters, the relations between them depend in any respect upon principles of international law. International law is no alien in this tribunal. * * * In other words, through these successive disputes and decisions this court is practically building up what may not improperly be called interstate common law." (206 U. S. 97.)

In controversies involving interstate streams two fundamental principles control.

The *first*:

"Each state has full jurisdiction over the lands within its borders. * * * It may determine for itself whether the common law rule in respect to riparian rights

or that doctrine which obtains in the arid region of the West of the appropriation of waters for the purposes of irrigation shall control. Congress cannot enforce either rule upon any state."

Kansas vs. Colorado, 206 U. S. 46, 93.

Or, in other words:

"The states have authority to establish for themselves such rules of property as they may deem expedient with respect to the streams of water within their borders, both *navigable and non-navigable*."

United States vs. Cress, 37 Sup. Ct. Rep. 380, 381.

The *second*:

"One cardinal rule, underlying all the relations of the states to each other is that of *equality of right*. Each state stands on the same level with all the rest. It can impose its own legislation on no one of the others, and is bound to yield its own views to none." (206 U. S. 97.)

The controversy should be so settled that the sovereign powers of both states are preserved and at the same time establish justice between them:

"Whenever, as in the case of Missouri vs. Illinois, 180 U. S. 208, the action of one state reaches through the agency of natural laws into the territory of another state, the question of the extent and the limitations of the rights of the two states becomes a matter of justiciable dispute between them, and this court is called upon to settle that dis-

pute in such a way as will recognize the *equal rights of both* and at the same time establish justice between them." (206 U. S. 98.)

A greater degree of caution is manifest in such controversies than would obtain in suits between citizens within the same or different jurisdictions. And the complaining state should be required to establish the injury and its right to relief upon the clearest and most indisputable testimony before this court would be warranted in preventing the other state from exercising its sovereign control over its natural resources.

In *Missouri vs. Illinois*, 180 U. S. 208, 248, Mr. Justice Shiras thus announced the degree of proof required before injunction would issue to restrain a nuisance upon an interstate stream:

"We fully agree with the contention of defendants' counsel that it is settled that an injunction to restrain a nuisance will issue only in cases where the fact of nuisance is made out upon determinate and satisfactory evidence; *that if the evidence be conflicting and the injury doubtful, that conflict and doubt will be a ground for withholding an injunction*; and that, where interposition by injunction is sought, to restrain that which is apprehended will create a nuisance of which its complainant may complain, the proofs must show a state of facts as will manifest the danger to be real and immediate."

And in the same case on final hearing, after proof, Mr. Justice Holmes thus distinguished be-

tween state controversies and those between individuals and announced the greater caution and degree of proof required in the former:

“It may be imagined that a nuisance might be created by a state upon a navigable river like the Danube, which would amount to a *causus belli* for a state lower down, unless removed. If such a nuisance were created by a state upon the Mississippi the controversy would be resolved by the more peaceful means of a suit in this court. But it does not follow that every matter which would warrant a resort to equity by one citizen against another in the same jurisdiction equally would warrant an interference by this court with the action of a state. It hardly can be that we should be justified in declaring statutes ordaining such action void in every instance where the Circuit Court might intervene in a private suit, upon no other ground than analogy to some selected system of municipal law, and the fact that we have jurisdiction over controversies between states.

* * * * *

Before this court ought to intervene the case should be of serious magnitude, clearly and fully proved, and the principle to be applied should be one which the court is prepared deliberately to maintain against all considerations on the other side. See Kansas vs. Colorado, 185 U. S. 125.

As to the principle to be laid down the caution necessary is manifest. * * *
To decide the whole matter at one blow by

an irrevocable fiat would be at least premature." (200 U. S. 520.)

In that case this court refused to enjoin Illinois from discharging sewage and other waters into the Mississippi river, where it appeared from the evidence that other cities, including those in Missouri were contributing to the same condition and the proof of the injury was inadequate to justify an injunction.

In the present case we contend that the proof by Wyoming falls so far below the allegations of the bill that it is not brought within the principles governing such controversies. Not only has Wyoming failed to sustain the allegations of the bill, but on the other hand, the evidence shows beyond a contradiction that Wyoming is herself sanctioning and permitting the very acts of which she complains against Colorado. She complains of diversions from the watershed of the river and yet the proof is uncontradicted that such is the prevailing custom under sanction of Wyoming laws and court decrees, not only on the Laramie river, but elsewhere over the state (1503-18) and that Wyoming is in fact diverting water out of the Cache la Poudre watershed into the Laramie drainage while here she complains of the Colorado diversion from the Laramie to the Cache la Poudre (1516-18, 1577, 1595. See also pp. 27-39, Vol II, Def. Original Brief.) She complains that she had appropriated all the waters of the Colorado branch of the Laramie river prior to the time Colorado commenced work on her tunnel diversion system (Aug. 25, 1902) and yet the evidence shows without contradiction that long after the Colorado project was commenced, Wyoming granted permits for numerous and immense projects from the same river, beginning, with one exception, not earlier than

1907 and principally during the years 1908, 1909, 1910 and 1912, and thereby determined, by decisions of her state engineer (Wyoming Comp. St. 1910, Sec. 729, p. 248; also p. 3918 of record); that sufficient water yet remained in the stream to supply the enormous new and far junior projects. (See pages 192, 226, Vol. II, defendant's original brief and tables; see, also, marginal pp. 3916-3933 of record and exhibits). She further asserts that all the waters of the Colorado branch of the stream are required for her prior diversions, while the proof shows that she needlessly annually wastes more water than will be diverted by the Colorado tunnel. (See pp. 299 to 307, this brief.) In short, the proof is not only conflicting, but, on the contrary, conclusive against the allegations of the bill.

Defendants contend that Wyoming has wholly failed to prove the allegations of her bill and that the same should be dismissed.

While we might here conclude the argument, nevertheless, so important is the controversy and so far reaching will be the precedent, that fairness to all concerned demands extended consideration of the great case of *Kansas vs. Colorado, supra*. So far as we are able to ascertain, that was the first and the last controversy between states over the use of interstate streams for irrigation, to have come before this Court, and we are unable, after extended search, to find any record or report of settlement of a similar controversy anywhere on either hemisphere. The equality and dignity of the states and the extent of their jurisdiction over the natural resources and waters within their borders, announced in the decision in that case and in the former case of *Missouri vs. Illinois*, would seem to have determined the fundamental principles of interstate law governing contro-

versies between states of the Union over rivers common to two or more thereof, and to have established the degree of certainty of proof required of a complaining state before her neighboring state may, in justice and recognition of the equal dignity and sovereign rights of both, be restrained in the use of her own territory and resources to the alleged detriment of the complaining state.

Kansas vs. Colorado.

The case of *Kansas vs. Colorado*, involved the Arkansas River, which rises in the mountains of Colorado and flows out across the plains of eastern Colorado, and thence across southwestern Kansas into Oklahoma. The State of Kansas, by leave of court, filed her complaint against the State of Colorado, charging:

“That the State of Colorado and her citizens acting under her authority, had diverted and were threatening to divert, within the territorial limits of Colorado, the waters of the Arkansas river for the purposes of irrigation, under claim that Colorado, as a sovereign state, was the owner of all the waters within her borders;

That these ditch owners and the State of Colorado are now diverting the waters flowing in the bed of the Arkansas river and its tributaries, and carrying them to great distances from their natural courses, and discharging them for agricultural purposes on ‘arid and non-riparian lands,’ where such waters are *wholly lost* to such streams and to the State of Kansas and its inhabitants. That such diversion is carried to

such an extent that no water flows in the bed of said river from the State of Colorado into the State of Kansas during the annual growing season, and the underflow of said river in Kansas is diminishing and continuing to diminish, and if the said diversion continues to increase, the bottom lands of said valley will be injured to an enormous extent, and a large portion thereof will be utterly ruined and will become deserted and be a part of of an arid desert;

That by reason of the prior settlement, occupation and title of the inhabitants of Kansas upon and to the lands situated in the valley of said river, including those upon its banks, Kansas and the owners of land in the valley acquired, and now have the right to the uninterrupted and unimpeded flow of all the waters of the river into and across the State of Kansas; which rights accrued prior to any of the diversions by or in Colorado, and prior to the accruing of any rights claimed by that state, or by persons, firms or corporations therein now taking water from the river or its tributaries."

After setting forth the damage to the State of Kansas, by the Colorado diversions, the complainant prayed that the State of Colorado and her citizens be enjoined from diverting the water of the river. (185 U. S. 133, 135, 137.)

To this bill the State of Colorado demurred upon several grounds, among them, because the constitution of the State of Colorado, declaring public property in the waters of its natural streams and sanctioning the right of appropriation, was enacted pur-

suant to national authority and ratified thereby at the time of the admission of the state into the Union. (185 U. S. 138-139.)

In the opinion by Mr. Chief Justice Fuller, the court considered the extreme contentions of the two states, that is, the contention of Kansas that, as a lower riparian owner prior in point of development to Colorado, she had the right to the full and unimpeded flow of the river without diversion by the State of Colorado, and the contention of Colorado, that as a sovereign and independent state, she is justified, if her geographical situation and material welfare demand it, in her judgment, in consuming for beneficial purposes all the waters within her boundaries; and held, inasmuch as the two states could not, under the Constitution of the United States, enter into a treaty nor resort to war with one another, as they might if each were an independent nation, that the controversy between them was justifiable. The demurrer was overruled without prejudice, the court saying (page 147):

“We think proof should be made as to whether Colorado is herself actually threatening to wholly exhaust the flow of the Arkansas River in Kansas; whether what is described in the bill as the ‘underflow’ is a subterranean stream flowing in a known and defined channel, and not merely water percolating through the strata below; whether certain persons, firms, and corporations in Colorado must be made parties hereto; what lands in Kansas are actually situated on the banks of the river, and what, either in Colorado or Kansas, are absolutely dependent on water therefrom; the extent of the water-

shed or the drainage area of the Arkansas River; the possibilities of the maintenance of a sustained flow through the control of flood waters; in short, the circumstances, a variation in which might induce the court to either grant, modify, or deny the relief sought or any part thereof."

Thereafter, Kansas amended her bill by making certain corporations and individuals in Colorado parties defendant, and the Government, through the Solicitor General, intervened on behalf of the United States Reclamation Service, admitting that the court had jurisdiction of the controversy; that navigation was not affected by the diversions in Colorado, and also that the common law of riparian rights never applied within the territorial limits of the State of Colorado, but taking a position antagonistic to both the original parties to the suit, contending, among other things (Vol. 206, page 66), that water flowing in interstate streams was the subject of interstate commerce, and therefore within the jurisdiction of the federal government, or the alternative, that, inasmuch as a conflict between the two sovereign states was involved, there was in the United States an inherent power of sovereignty giving it jurisdiction over the waters of interstate streams; that inasmuch as there were vast bodies of land included within the public domain, the irrigation of which could be more readily accomplished by the Reclamation Service, acting under the authority of the Reclamation Act, June 17, 1902, 32 Stats. 388, therefore: "the decree should embrace, in terms or in effect, a recognition of the national law and of the government's right to direct the matter of water distribution on this non-navigable interstate stream"; and that the doctrine

of riparian rights was unsuited to national control of irrigation from interstate streams, and the doctrine of prior appropriation should be adopted as the plan of national administration.

The State of Colorado, by answer, denied that her diversions of water from the stream had worked any injury to Kansas or her citizens and denied the right of Kansas to insist upon the undiminished flow of the stream; that the Arkansas river, rising in the mountains of Colorado and flowing out across her plains to Kansas, was one of the natural resources of the State of Colorado, and that as a sovereign state she had the right to divert the waters of the stream and use the same for the necessary reclamation of the arid lands within her borders; that her rights as a state of the Union were in all respects equal with those of the State of Kansas, and that as a sovereign state she had the right to divert and use the waters within her territory under such rules and laws as were best adapted to the necessities of the state and her citizens.

In short, three general contentions were made:

Kansas asserted the doctrine of riparian rights with some limited right of irrigation, and insisted that the river should flow undiminished from Colorado;

Colorado asserted her right to use the waters of the river as a natural resource rising within her borders, for the reclamation of her arid lands under her local rules of priority of appropriation;

The United States asserted superior authority and control of the interstate stream, under a general plan of national reclamation.

Upon final hearing the claims of national control by the United States were denied and the full

jurisdiction of each state over the lands, streams and waters within its borders was affirmed, and while the appropriation of waters by Colorado for irrigation was found to have diminished the flow of the river into Kansas and to have worked perceptible injury to portions of the Arkansas valley in Kansas, the bill of the State of Kansas was dismissed without prejudice to her right to institute new proceedings whenever it should appear that a material increase in the depletion of the waters of the Arkansas by Colorado should be injuring the substantial interests of Kansas to the extent of destroying the equitable apportionment of the benefits between the two states resulting from the flow of the river.

The exhaustive opinion by Mr. Justice Brewer clearly defines the sovereign rights of each of the states; their equal powers as states of the Union and the limitations of the exercise of such powers in their relations to one another, in the use of common streams. After a discussion of authorities and the conclusion that the controversy was one of a justiciable nature, he said :

“Turning now to the controversy as here presented, it is whether Kansas has a right to the continuous flow of the waters of the Arkansas River, as that flow existed before any human interference therewith, or Colorado the right to appropriate the waters of that stream so as to prevent that continuous flow, or that the amount of the flow is subject to the superior authority and supervisory control of the United States. While several of the defendant corporations have answered, it is unnecessary to specially consider their defenses, for if the case against Colorado fails it fails also as against them.

Colorado denies that it is in any substantial manner diminishing the flow of the Arkansas River into Kansas. If that be true, then it is in no way infringing upon the rights of Kansas. And if it is diminishing that flow, has it an absolute right to determine for itself the extent to which it will diminish it, even to the entire appropriation of the water? And if it has not that absolute right is the amount of appropriation that it is now making such an infringement upon the rights of Kansas as to call for judicial interference? Is the question one solely between the States or is the matter subject to national legislative regulation, and, if the latter, to what extent has that regulation been carried? * * *

The primary question is, of course, of national control. For, if the Nation has a right to regulate the flow of the waters, we must inquire what it has done in the way of regulation. If it has done nothing, the further question will then arise, what are the respective rights of the two States in the absence of national regulation?" (p. 85.)

After noting the power of Congress to regulate commerce among the States and control interstate navigation, but that the United States made no such claim and admitted that the use of waters by Kansas and Colorado in no way affected the navigability of the river, he continued:

"It rests its petition of intervention upon its alleged duty of legislating for the reclamation of arid lands; alleges that in or near the Arkansas River, as it runs

through Kansas and Colorado, are large tracts of those lands; that the National Government is itself the owner of many thousands of acres; that it has the right to make such legislative provision as in its judgment is needful for the reclamation of all these arid lands, and for that purpose to appropriate the accessible waters.

In support of the main proposition it is stated in the brief of its counsel:

‘That the doctrine of riparian rights is inapplicable to conditions prevailing in the arid region; that such doctrine, if applicable in said region, would prevent the sale, reclamation, and cultivation of the public arid lands, and defeat the policy of the Government in respect thereto; that the doctrine which is applicable to conditions in said arid region, and which prevails therein, is that the waters of natural streams may be used to irrigate and cultivate arid lands, whether riparian or non-riparian, and that the priority of appropriation of such waters and the application of the same for beneficial purposes establishes a prior and superior right.’

In other words, the determination of the rights of the two States inter sese in regard to the flow of waters in the Arkansas River is subordinate to a superior right on the part of the National Government to control the whole system of the reclamation of arid lands. That involves the question whether the reclamation of arid lands is one of the powers granted to the General Government.

As heretofore stated, the constant declaration of this Court from the beginning is that this Government is one of enumerated powers. * * *

Turning to the enumeration of the powers granted to Congress by the eighth section of the first article of the Constitution, it is enough to say that no one of them by any implication refers to the reclamation of arid lands. * * *

We must look beyond section 8 for congressional authority over arid lands, and it is said to be found in the second paragraph of section 3 of Article IV, reading: 'The Congress shall have power to dispose of and make all needful rules and regulations respecting the territory or other property belonging to the United States; and nothing in this Constitution shall be so construed as to prejudice any claims of the United States, or of any particular State.'

The full scope of this paragraph has never been settled. Primarily, at least, it is a grant of power to the United States of control over its property. That is implied by the words, 'territory or other property.' It is true it has been referred to in some decisions as granting political and legislative control over the Territories as distinguished from the States of the Union. * * * But clearly it does not grant to Congress any legislative control over the States, and must, so far as they are concerned, be limited to authority over the property belonging to the United States within their limits. * * * The powers affecting the internal affairs of

the States not granted to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, and all powers of a national character which are not delegated to the National government by the Constitution are reserved to the *people* of the United States.

* * * * *

This very matter of the reclamation of arid lands illustrates this: At the time of the adoption of the Constitution within the known and conceded limits of the United States there were no large tracts of arid land, and nothing which called for any further action than that which might be taken by the legislature of the State, in which any particular tract of such land was to be found, and the Constitution, therefore, makes no provision for a national control of the arid regions or their reclamation. But, as our national territory has been enlarged, we have within our borders extensive tracts of arid lands which ought to be reclaimed, and it may well be that no power is adequate for their reclamation other than that of the National Government. *But if no such power has been granted, none can be exercised.*

* * * * *

As to those lands within the limits of the States, at least of the Western States, the National Government is the most considerable owner and has power to dispose of and make all needful rules and regulations respecting its property. We do not mean that its legislation can override state laws in respect to the general subject of

reclamation. *While arid lands are to be found, mainly if not only in the Western and newer States, yet the powers of the National Government within the limits of those States are the same (no greater and no less) than those within the limits of the original thirteen, and it would be strange if, in the absence of a definite grant of power, the National Government could enter the territory of the States along the Atlantic and legislate in respect to improving by irrigation or otherwise the lands within their borders. Nor do we understand that hitherto Congress has acted in disregard to this limitation.*" (pp. 86-92.)

After quoting from the opinion of Mr. Justice White in *Gutierrez vs. Albuquerque Land Co.*, 188 U. S. 545, 554, to the effect that the purport of the previous acts of Congress is "reflexively illustrated" by Section 8 of the National Reclamation Act (Act of June 17, 1902, 32 Stat. 388) wherein it is provided that nothing in the act shall be construed as affecting or interfering with the laws of any State or Territory relating to the control, appropriation, use or distribution of water used in irrigation, and that the Secretary of the Interior in carrying out the act shall proceed in conformity with local laws, he disposed of the contention of the United States for national control in the following language:

"But it is useless to pursue the inquiry further in this direction. It is enough for the purposes of this case that *each State has full jurisdiction over the lands within its borders, including the beds of streams and other waters.* (Citing cases.) * * *

It may determine for itself whether the common law rule in respect to riparian rights, or that doctrine which obtains in the arid regions of the West of the appropriation of waters for the purposes of irrigation shall control. Congress cannot enforce either rule upon any State.” (pp. 93-4.)

To the argument that Congress had expressly imposed the common law on all the Western territory prior to its formation into States he made answer :

“But when the States of Kansas and Colorado were admitted into the Union they were admitted with the full powers of local sovereignty which belonged to other States (citing cases), and Colorado by its legislation has recognized the right of appropriating the flowing waters to the purposes of irrigation. Now the question arises between two States, one recognizing generally the common law rule of riparian rights and the other prescribing the doctrine of the public ownership of flowing water. *Neither State can legislate for or impose its own policy upon the other.* A stream flows through the two and a controversy is presented as to the flow of that stream. It does not follow, however, that because Congress cannot determine the rule which shall control between the two States, or because neither State can enforce its own policy upon the other, that the controversy ceases to be one of a justiciable nature, or that there is no power which can take cognizance of the controversy and determine the *relative rights* of the two States. Indeed, the disagreement, coupled

with its effect upon a stream passing through the two States, makes a matter for investigation and determination by this Court. * * * As Congress cannot make compacts between the States, as it cannot, in respect to certain matters, by legislation compel their separate action, disputes between them must be settled either by force or else by appeal to tribunals empowered to determine the right and wrong thereof. Force under our system of government is eliminated. The clear language of the Constitution vests in this Court the power to settle those disputes. We have exercised that power in a variety of instances, determining in the several instances the justice of the dispute. *Nor is our jurisdiction ousted, even if, because Kansas and Colorado are States sovereign and independent in local matters, the relations between them depend in any respect upon principles of international law.* International law is no alien in this tribunal. * * *

‘Sitting, as it were, as an international, as well as a domestic tribunal, we apply Federal law, state law and international law, as the exigencies of the particular case may demand.’ ” (pp. 95-7.)

Of the equal rights of States of the Union, the relation of the citizen and his usufructuary private rights to the State and the rule which must be applied in the settlement of controversies between States he said:

“One cardinal rule, underlying all the relations of the States to each other, is that

of equality of right. Each State stands on the same level with all the rest. It can impose its own legislation on no one of the others, and is bound to yield its own views to none. Yet, whenever, as in the case of *Missouri vs. Illinois*, 180 U. S. 208, the action of one State reaches through the agency of natural laws into the territory of another State, the question of the extent and limitations of the rights of the two States becomes a matter of justiciable dispute between them, and this Court is called upon to settle that dispute *in such a way as will recognize the equal rights of both and at the same time establish justice between them.* In other words, through these successive disputes and decisions this Court is practically building up what may not improperly be called interstate common law. This very case presents a significant illustration. Before either Kansas or Colorado was settled the Arkansas River was a stream running through the territory which now composes these two States. Arid lands abound in Colorado. Reclamation is possible only by the application of water, and the extreme contention of Colorado is that it has a right to appropriate all the waters of this stream for the purposes of irrigating its soil and making more valuable its own territory. But the appropriation of the entire flow of the river would naturally tend to make the lands along the stream in Kansas less arable. It would be taking from the adjacent territory that which had been the customary natural means of preserving its

arable character. On the other hand, the possible contention of Kansas, that the flowing water in the Arkansas must, in accordance with the extreme doctrine of the common law of England, be left to flow as it was wont to flow, no portion of it being appropriated in Colorado for the purposes of irrigation, would have the effect to perpetuate a desert condition in portions of Colorado beyond the power of reclamation. Surely here is a dispute of a justiciable nature which must and ought to be tried and determined. *If the two States were absolutely independent nations it would be settled by treaty or by force.* Neither of these ways being practicable, it must be settled by decisions of this Court.

It will be perceived that Kansas asserts a pecuniary interest as the owner of certain tracts along the banks of the Arkansas and as owner of the bed of the stream. We need not stop to consider what rights such private ownership of property might give.

‘In the case before us, the State of Kansas files her bill as representing and on behalf of her citizens, as well as in vindication of her alleged rights as an individual owner, * * *. *The action complained of is state action and not the action of state officers in abuse or excess of their powers.*’

It is the State of Kansas which invokes the action of this Court, charging that through the action of Colorado a large portion of its territory is threatened with disaster. In this respect it is in no manner evading the provisions of the Eleventh

Amendment to the Federal Constitution. *It is not acting directly and solely for the benefit of any individual citizen to protect his riparian rights.* Beyond its property rights it has an interest as a State in this large tract of land bordering on the Arkansas River. Its prosperity affects the general welfare of the State. *The controversy rises, therefore, above a mere question of local private right and involves a matter of state interest, and must be considered from that standpoint.* *Georgia vs. Tennessee Copper Co.*, decided this day, *post*, p. 230.

This changes in some respect the scope of our inquiry. It is not limited to the simple matter of whether any portion of the waters of the Arkansas is withheld by Colorado. *We must consider the effect of what has been done upon the conditions in the respective States and so adjust the dispute upon the basis of equality of rights* as to secure as far as possible to Colorado the benefits of irrigation without depriving Kansas of the like beneficial effects of a flowing stream. * * * we are justified in looking at the question not narrowly and solely as to the amount of the flow in the channel of the Arkansas River, inquiring merely whether any portion thereof is appropriated by Colorado, but we may properly consider what, in case a portion of that flow is appropriated by Colorado, are the effects of such appropriation upon Kansas territory. * * * May we not consider some appropriation by Colorado of the waters of the Arkansas to the irrigation

and reclamation of its arid lands as a reasonable exercise of its sovereignty and as not unreasonably trespassing upon any rights of Kansas?" (pp. 97-102.)

The local law of riparian rights as applied in Kansas and the equitable division of the waters of the stream between the riparian owners, all having equal rights to the use thereof under the riparian doctrine, is then discussed and the opinion continues:

"As Kansas thus recognizes the right of appropriating the waters of a stream for the purposes of irrigation, subject to the condition of an equitable division between the riparian proprietors, she cannot complain if the same rule is administered between herself and a sister State. And this is especially true when the waters are, except for domestic purposes, practically useful only for purposes of irrigation." (pp. 104-5.)

After a discussion of the evidence, including the character of the stream, the administration of diversions in Colorado by State authorities, the benefits derived by irrigation from the waters of the Arkansas River in that State and the detriment to certain portions of Kansas, he continued:

"At one time there were some irrigating ditches in these western counties, which promised to be valuable in supplying water and thus increasing the productiveness of the lands in the vicinity of the stream, and it is true that those ditches have ceased to be of much value, the flow in them having largely diminished.

*It cannot be denied in view of all the testimony * * * that the diminution of the flow of water in the river by the irrigation of Colorado has worked some detriment to the southwestern part of Kansas, and yet when we compare the amount of this detriment with the great benefit which has obviously resulted to the counties in Colorado, it would seem that equality of right and equity between the two States forbids any interference with the present withdrawal of water in Colorado for purposes of irrigation."* (pp. 113-114.)

After further discussion of certain facts peculiar to the case there presented, Mr. Justice Brewer thus concluded and disposed of the controversy:

"Summing up our conclusions, we are of the opinion * * * *that the appropriation of the waters of the Arkansas by Colorado, for purposes of irrigation, has diminished the flow of water into the State of Kansas; that the result of that appropriation has been the reclamation of large areas in Colorado, transforming thousands of acres into fertile fields and rendering possible their occupation and cultivation when otherwise they would have continued barren and unoccupied; that while the influence of such diminution has been of perceptible injury to portions of the Arkansas Valley in Kansas, particularly those portions closest to the Colorado line, yet to the great body of the valley it has worked little, if any, detriment, and regarding the interests of both States and the right of each to receive*

benefit through irrigation and in any other manner from the waters of this stream, we are not satisfied that Kansas has made out a case entitling it to a decree. At the same time it is obvious that if the depletion of the waters of the river by Colorado continues to increase there will come a time when Kansas may justly say that there is no longer an equitable division of benefits and may rightfully call for relief against the action of Colorado, its corporations and citizens in appropriating the waters of the Arkansas for irrigation purposes.

The decree which, therefore, will be entered will be one dismissing the petition of the intervenor, without prejudice to the rights of the United States to take such action as it shall deem necessary to preserve or improve the navigability of the Arkansas River. The decree will also dismiss the bill of the State of Kansas as against all the defendants, without prejudice to the right of the plaintiff to institute new proceedings whenever it shall appear that through a material increase in the depletion of the waters of the Arkansas by Colorado, its corporations or citizens, the substantial interests of Kansas are being injured to the extent of destroying the equitable apportionment of benefits between the two States resulting from the flow of the river." (pp. 117-118.)

Kansas vs. Colorado, 206 U. S., pages
supra.

We are unable to concur with counsel for Wyoming in their theory that this great case between

States was determined upon the narrow grounds of the doctrine of private riparian rights, or that the equitable division between the States, of rivers common to two or more of them, is narrowed in its limits to riparian users. We are inclined to construe the language, upon which counsel predicates such an argument, with the remainder and to read the opinion as a whole, rather than to adopt that portion, referring alone to an admission against interest by Kansas, as an announcement by this Court of the general principle controlling the rights of States in their use of interstate streams. The decision as a whole would indicate that Kansas had failed to prove either the allegations of her complaint or that Colorado was exercising her sovereign rights in an inequitable manner with regard to the rights of her neighboring State.

And, while the rights of riparian users within the State are equal one with the other, yet the rights of States of the Union to control the natural resources within their borders are equal one with the other; and it would seem, from the opinion, that any doctrine of equitable apportionment of the waters of rivers between States must be founded upon a broad basis of equitable consideration of all the facts of each case as they appear, with full regard to the equal rights of States of equal dignity, powers and jurisdiction, and not upon the narrower basis of local laws governing mere usufructuary rights of private citizens, which rights are at all times within the control of and may be taken away by the State, according to its sovereign will. The language of the opinion is:

“But it is useless to pursue the inquiry further in this direction. It is enough for the purposes of this case *that each State has*

full jurisdiction over the lands within its borders, including the beds of streams and other waters. (Citing cases.) * * *

It may determine for itself whether the common law rule in respect to riparian rights or that doctrine which obtains in the arid regions of the West of the appropriation of waters for the purposes of irrigation shall control. Congress cannot enforce either rule upon any State." (pp. 93-94.)

"One cardinal rule, underlying all the relations of the States to each other, is that of equality of right. Each State stands on the same level with all the rest. It can impose its own legislation on no one of the others, and is bound to yield its own views to none. Yet, whenever, as in the case of Missouri vs. Illinois, 180 U. S. 208, the action of one State reaches through the agency of natural laws into the territory of another State, the question of the extent and the limitations of the rights of the two States becomes a matter of justiciable dispute between them, and this Court is called upon to settle that dispute in such a way as will recognize the equal rights of both and at the same time establish justice between them." (pp. 97-8.)

"It is the State of Kansas which invokes the action of this Court, charging that through the action of Colorado a large portion of its territory is threatened with disaster. In this respect it is in no manner evading the provisions of the Eleventh Amendment to the Federal Constitution. It is not acting directly and solely for the bene-

fit of any individual citizen to protect his riparian rights. Beyond its property rights it has an interest as a State in this large tract of land bordering on the Arkansas River. Its prosperity affects the general welfare of the State. The controversy rises, therefore, above a mere question of local private right and involves a matter of State interest, and must be considered from that standpoint. Georgia vs. Tennessee Copper Co., decided this day, post, p. 230.

This changes in some respect the scope of our inquiry. It is not limited to the simple matter of whether any portion of the waters of the Arkansas is withheld by Colorado. *We must consider the effect of what has been done upon the conditions in the respective States and so adjust the dispute upon the basis of equality of rights as to secure as far as possible to Colorado the benefits of irrigation without depriving Kansas of the like beneficial effects of a flowing stream.*" (pp. 99-100.)

It will be noted that Kansas had made appropriations prior to those complained of in Colorado and that diversions by Colorado ditches had cut off the water supply of these canals and had worked detriment to Kansas and her prior appropriations, but this court said:

"When we compare the amount of this detriment with the great benefit that has obviously resulted to counties in Colorado, it would seem *that the equality of right and equity between the two states forbids* any interference with the present withdrawal of

water in Colorado for the purposes of irrigation.” (p. 114.)

The above quoted language, when read with the rest of the opinion, would seem to indicate the controlling, fundamental principle to be that of equality of right between the two States and not equality of right between individual citizens of either thereof, and further, that in the exercise of her sovereign right to sustain herself and her people and to obtain the benefits from the natural resources within her domain, the upper state may divert the waters of the interstate stream to the injury of the lower State or her citizens, so long as by so doing the upper State shall not deprive the lower State of an equitable portion of the common resource, and, that what may be an equitable portion must be determined upon the facts and circumstances of each particular case construed so as to recognize and preserve the equal rights of both States “and at the same time establish justice between them.”

The late Mr. Kinney interpreted the decision as follows:

“Therefore, as to the rights in and to the waters of interstate streams the law of this case, summed up in a concise statement, seems to be that each State through which an interstate river runs is entitled to make reasonable use of its waters, even to the extent that the state below may be damaged to a considerable extent thereby, provided the upper State does not divert the waters in excess of what will give it an equitable apportionment, all facts considered, of the benefits of the river, which apportionment is not confined to an equal division between the

two States, or the respective States, of the entire natural flow of the stream.”

Kinney on Irrigation and Water Rights
(2nd Ed.), Vol. III, p. 2216.

But even though we here construe the decision within the narrower limits and assume an equal apportionment of the waters of the stream, we here find that the Laramie River rises not in one, but in both States. The waters of the Wyoming part of the stream, as well as those of the Colorado branch, are available to Wyoming and her citizens. On the other hand, natural conditions are such that Colorado is limited, by her great tunnel and all other means of diversion, to use of but a part ($91/250$) of the waters of that branch which rises and flows within her borders, and the remainder thereof must forever flow into Wyoming, there to unite with the other waters of the stream for the use and benefit of the lower state. Whatever the injury might be to Wyoming (though none has been proved), this would not appear to be an inequitable use of her own resources by Colorado. Even if we were to assume, for argument, that the Laramie River had its rise wholly within Colorado, and that Wyoming had the right to one-half the waters, in order that both States might obtain equal benefits, Colorado would still be limited to $91/250$ of the stream. But in truth she is limited to $91/470$ of the waters of the stream common to both States. Diversions of such an amount would not seem inequitable between equal States.

As we read the opinion, after determining adversely the claim of the United States for National control of all interstate streams for purposes of irrigation and reclamation, and after defining the dignity and equality of the States and the jurisdiction of each thereof over the waters of the streams within

her borders, as well as the relation of the States one with the other as members of the Union, this Court decided that, notwithstanding Colorado and her citizens had damaged Kansas by diversion of waters of the river in Colorado, Kansas had failed to prove such a case against Colorado as would justify this Court to intervene and enjoin Colorado and her citizens from use of the stream; and, that this Court would not interfere until such a time as Colorado, by additional use, might so deplete the flow of the stream, to the injury of the substantial interests of Kansas, as to destroy an "equitable apportionment of the benefits between the two States" of equal rights and sovereign powers as members of the Union. And further, that inasmuch as Kansas recognized "the right of apportioning the waters of the stream for purposes of irrigation, subject to the condition of equitable division between the riparian owners, she cannot complain if the same rule is administered between herself and a sister State."

In other words, the decision in *Kansas vs. Colorado* is similar to that in *Missouri vs. Illinois*, where the bill of Missouri was likewise dismissed on failure of Missouri to prove such a case against Illinois as would justify this Court to interfere and prevent Illinois from exercising her sovereign jurisdiction over her territory and her rivers, and where it was held that Missouri had no ground to complain when she, in fact, was contributing to the cause which provoked the controversy.

Applying to this case the principles announced in the above decisions and the other cases, *supra*, we find that Wyoming has wholly failed to prove the allegations of her bill, and even more, has by her own conduct denied her charges against Colorado by permitting appropriations for and authorizing construc-

tion of many new and enormous enterprises in Wyoming, long junior to the Colorado enterprise of which she complains and drawing water from the same stream; and, irrespective of other conclusive proof, has thereby admitted that there was and is ample water in the stream to supply all appropriations junior, as well as senior, to the Colorado enterprise, and that no injury could result to senior appropriations in Wyoming by reason of the Colorado diversion; and that by her official acts, she has contributed to the very depletion whereof she complains. Further, the proof shows that not only is there ample water in the stream for use of all Wyoming enterprises, senior and junior to the Colorado project, but as well that Wyoming needlessly wastes more water than will be withdrawn from the stream by Colorado. And, furthermore, while she complains of Colorado making use of a part of her own waters outside the immediate drainage of that lesser tributary of the Platte River here involved, the proof reveals, without contradiction, that Wyoming is not only diverting from the drainage of the Cache la Poudre over into that of the Laramie (1516-18, 1577, 1595-6) and permitting the great Wheatland enterprise to make an inter-watershed diversion in all respects similar (save possibly for degree) to that whereof she complains in Colorado, (1511-13, Def. Orig. Brief, Vol. II, pp. 27-38), but, even more, that Wyoming generally recognizes and permits such diversions, by official sanction and decrees of her courts, within her own territory, and by means thereof she has been able to effect her most valuable reclamation and development. No proof was offered in support of her claims as a riparian owner and, on the other hand, by her constitution, laws and the decisions of her courts, she has abolished and denied any such; and, lastly, she

has offered no sufficient proof whereby this Court could adjudicate and determine the relative rights of appropriation within either Wyoming or Colorado, if such a rule as she alleges were here applied.

By her failure to prove the allegation of her bill in the above and other respects she has not brought herself within the rule:

“Before this Court ought to intervene the case should be of serious magnitude, clearly and fully proved, and the principle to be applied should be one which the Court is prepared deliberately to maintain against all considerations on the other side. See Kansas vs. Colorado, 185 U. S. 125.

As to the principle to be laid down the caution necessary is manifest. * * * To decide the whole matter at one blow by an irrevocable fiat would be at least premature.” (200 U. S. 521.)

And:

“It would seem that equality of right and equity between the two States forbids any interference with the present withdrawal of water in Colorado for purposes of irrigation.” (206 U. S. 114.)

We discussed the history of diversions of water from one stream for use upon lands within the drainage of another stream in Part I, Volume II of our original brief, and there observed that such diversions have prevailed throughout the world from antiquity, wherever irrigation is necessary; that such diversions are common throughout the Western States, both with private and public enterprises and those of the United States Reclamation Service; that

such diversions have prevailed in Wyoming and Colorado and that the same are and always have been recognized, permitted and approved by the laws of both of the States and are recognized and decreed by their courts. We also discussed the law of inter-watershed diversions throughout the States, and as interpreted by the courts of the United States, and found the same to be generally sanctioned and approved. We could add but little to that which already appears, and to which no answer has been made by complainant. In Volume II of this Supplemental Brief we shall discuss the facts more at length.

VIII. CONCLUSION.

We therefore conclude:

(1) That the general principles of prior appropriation are rules of *intra state* law; that their interpretation and application within each of the states, varies according to local conditions and necessities; that in no two of the States are the laws and decisions or rules and methods of application of the general principles the same; that the usufructuary rights permitted the citizens under the application of the general doctrine by each State, according to the local laws, conditions and necessities obtaining, are at all times within the control of the State and subject to the exercise of its police power; that the usufructuary rights of individuals may be taken away by the State through its superior power of eminent domain, as its future necessities may require; and that the general principles of prior appropriation are subject to be restricted and their operation limited in this case by state lines.

(2) That the rules and laws governing the usufructuary rights of the appropriator under the gen-

eral principles of prior appropriation are inapplicable to the sovereign rights of States; that the general principles of prior appropriation are incapable of application and administration for the regulation of diversions from interstate streams and their application would be inequitable and impracticable; that application of the general principles to interstate streams would be to impose exclusive and perpetual servitudes upon the territory and natural resources of one State, without consent, and to deny to that State and its inhabitants the use of a provision which nature has supplied entirely within its own territory, for the sole benefit of a neighboring State, and would violate the sovereign rights of States standing upon an equality as members of the Union; and that the general principles of prior appropriation cannot apply to interstate streams, without regard to state boundaries.

(3) That this case is to be controlled by the fundamental principles: that each State of the Union has the sovereign right to utilize and enjoy the natural resources and waters of the streams within its territory, according to its present and future conditions and necessities and those of its citizens and inhabitants, and has the sovereign right to grant to its citizens usufructuary rights to such natural resources, subject at all times to the superior rights of the State; that each State may utilize the natural resources and streams within its borders in such manner and to such degree as it may elect, and whenever the exercise of its sovereign powers shall be questioned by another State, this Court will not intervene unless, under all the facts and circumstances of the case, it shall appear that the one State is unreasonably injuring the other or interfering with the sovereign rights thereof; and that the exercise of its

sovereign rights by a State will not be disturbed unless the case be of serious magnitude, clearly and fully proved, and the principle to be applied be one which the Court is prepared deliberately to maintain against all considerations on the other side and that, in such case, the dispute between the States shall be settled in such a way as will recognize the equal sovereign rights of both States and at the same time establish justice between them.

We respectfully urge that the State of Wyoming has failed to prove the allegations of her bill or that the diversion of which complaint is made will in any manner injure her or her citizens; that the State of Colorado, by the diversion of a portion of the waters of the branch of the Laramie River within her territory, is not exercising her sovereign powers in an unreasonable manner or in any manner interfering with Wyoming in the exercise of her sovereign rights; and, therefore, that the suit should be dismissed.

Respectfully submitted,

PLATT ROGERS,
FRED FARRAR,
Of Counsel.

LESLIE E. HUBBARD,
*Attorney General of the State
of Colorado;*

DELPH E. CARPENTER,
*Attorney for The Greeley-Poudre
Irrigation District;*

JULIUS C. GUNTER,
*Attorney for The Laramie-Poudre
Reservoirs & Irrigation Co.*

Office Supreme Court, U. S.

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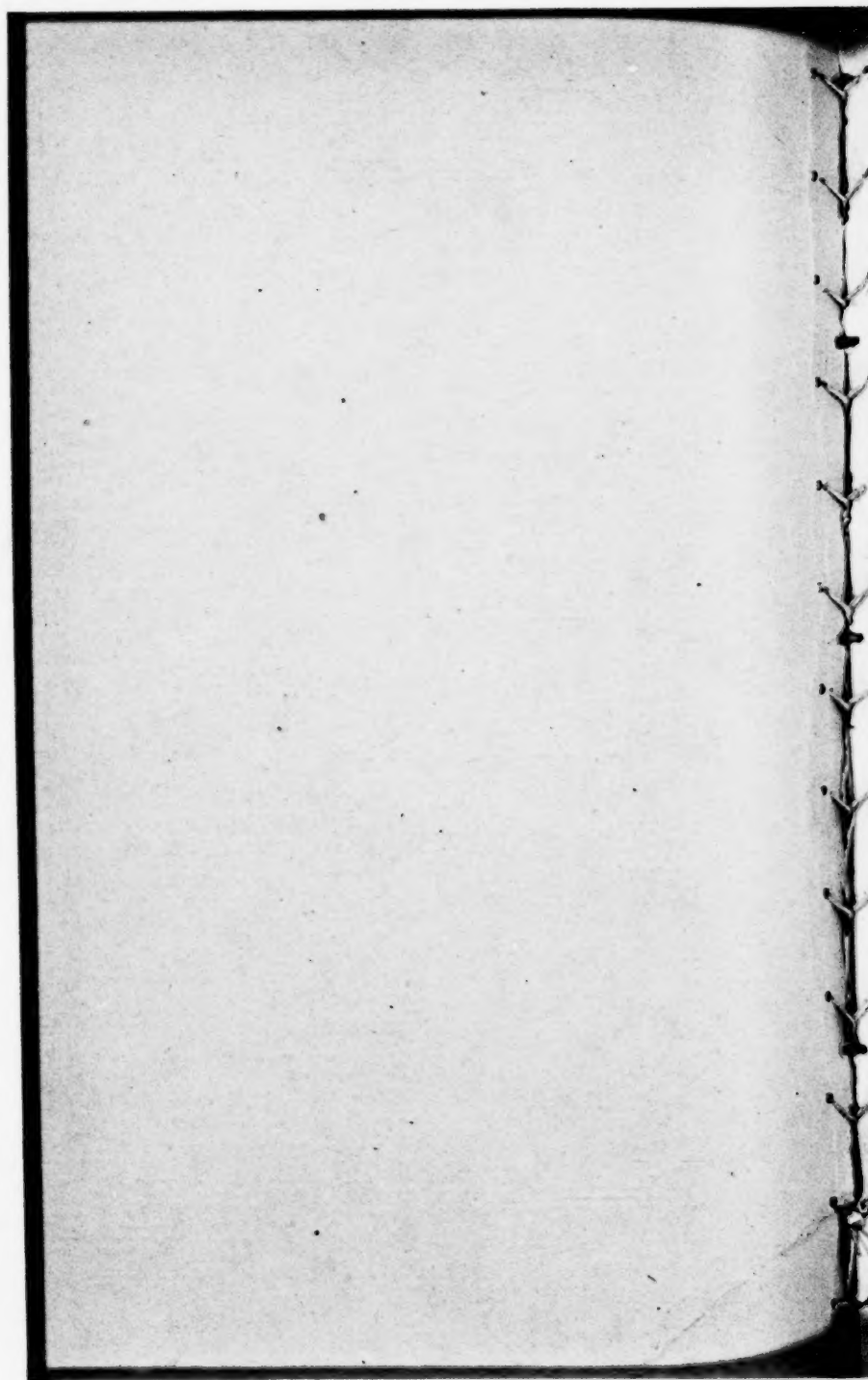
IN EQUITY.

THE STATE OF WYOMING, COMPLAINANT,
vs.
THE STATE OF COLORADO, THE GREELEY-POUDRE
IRRIGATION DISTRICT, AND THE LARAMIE-
POUDRE RESERVOIRS & IRRIGATION COMPANY,
DEFENDANTS.

BRIEF FOR DEFENDANTS.

VOLUME II.

FRED FARRAR,
Attorney General of the State of Colorado.
DELPH E. CARPENTER,
Attorney for The Greeley-Poudre Irrigation District.
JULIUS C. GUNTER,
Attorney for The Laramie-Poudre
Reservoirs & Irrigation Company.



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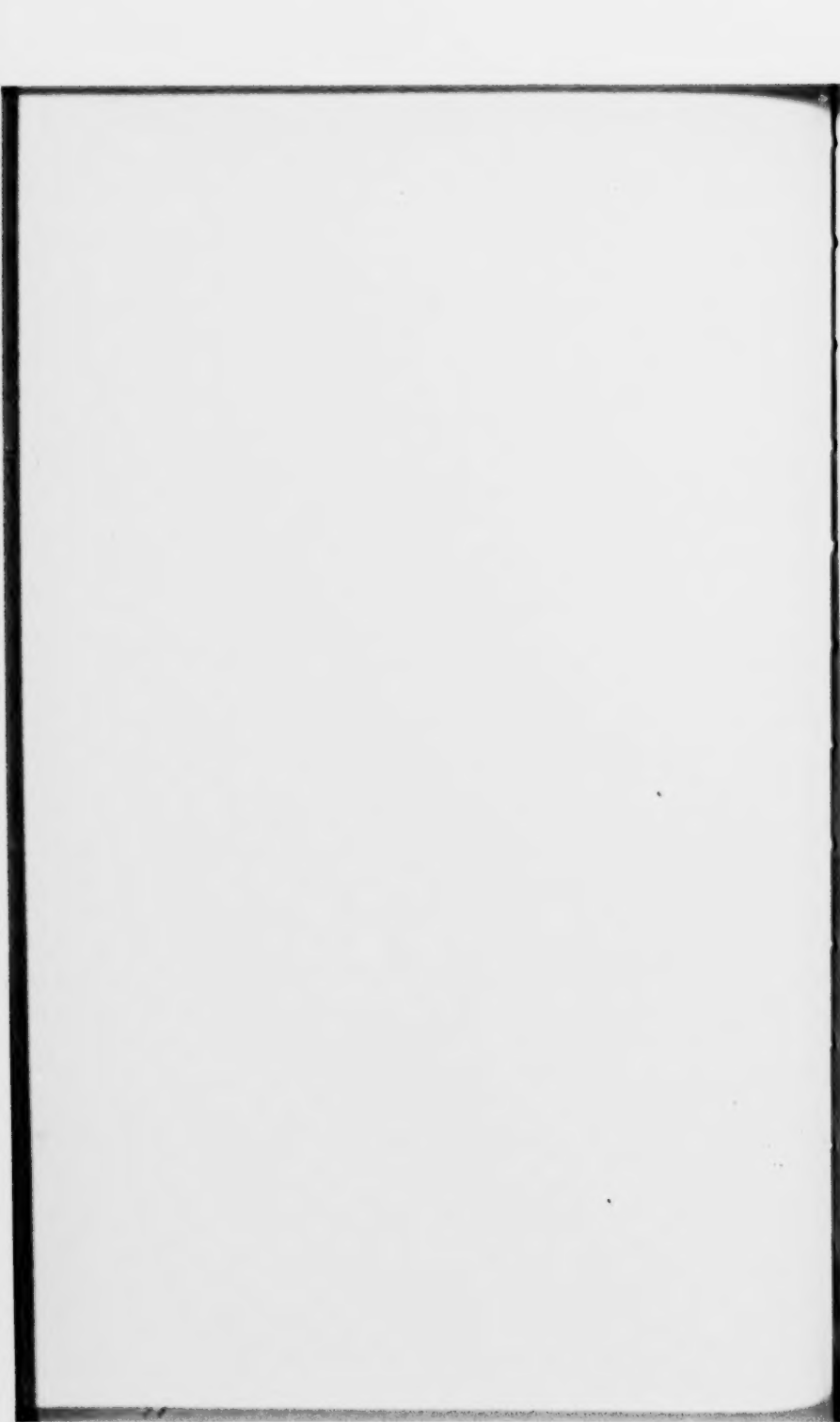
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THE STATE OF WYOMING, COMPLAINANT,
VS.
THE STATE OF COLORADO, ET AL., DEFENDANTS.

BRIEF FOR DEFENDANTS.

Volume II



PART I.

INTER-WATERSHED DIVERSIONS.

THIS GENERAL SUBJECT WILL BE TREATED AS
FOLLOWS:

INTER-WATERSHED DIVERSIONS—

(1) FOREIGN COUNTRIES—

- (a) *India*
- (b) *France*
- (c) *Ceylon*
- (d) *Asia Minor*
- (e) *Italy*
- (f) *Spain*
- (g) *Other diversions in Eastern Hemisphere*

(2) HAWAIIAN ISLANDS

(3) CANADA

(4) UNITED STATES RECLAMATION SERVICE

(5) SEVERAL STATES OF THE UNITED STATES

- (a) *California*
- (b) *Utah*
- (c) *Montana*
- (d) *Idaho*
- (e) *Nevada*
- (f) *Oregon*

(6) COLORADO AND WYOMING

- (a) *Colorado*
- (b) *Wyoming*

CAUSES OF INTER-WATERSHED DIVERSIONS

THE LAW OF INTER-WATERSHED DIVERSIONS. (See
outline at beginning of discussion of law on this subject.)

INTER-WATERSHED DIVERSIONS.

This controversy involves the diversion of waters of the Big Laramie River, one of the tributaries of the north branch of the Platte River, through the intervening divide and into the

drainage area of the Cache la Poudre River, one of the tributaries of the south branch of the Platte River. (1445, 1479.) The water so diverted will be used for irrigation of lands in the Cache la Poudre Valley. The Big Laramie rises entirely within the State of Colorado and diversion and application are made within that State. No portion of the diversion works and no part of the lands to be served are situate within the State of Wyoming.

The diversion is absolutely inter-watershed in its character and no part of the water flowing through the tunnel connecting the two streams ever returns to the Laramie River. This diversion is the last and final inter-watershed diversion which can ever be made from the Laramie to the Cache la Poudre in Colorado, and all the remainder of the water of the Big Laramie must forever pass out of Colorado into Wyoming. (1763-7, 1395, 1624.)

In addressing ourselves to this phase of the case, we shall first of all consider diversions of this character from a historical standpoint, both in foreign countries and the United States, and later will discuss in particular the history of such diversions both in Colorado and Wyoming. The causes for such diversions and the law relating thereto will be separately treated.

This topic received exhaustive consideration by Prof. L. G. Carpenter, whose masterly presentation should be incorporated in full in the brief. His illuminating testimony tells the story of such diversions wherever irrigation has prevailed since antiquity, and should be read in full and considered with the many exhibits prepared and offered by defendants. (See marginal pages 1423-1610 inclusive, 3902-7 inclusive, Defendants' Exhibits 22-50 inclusive.) (See also testimony of John E. Field, 3597-3615, same subject.)

(1) FOREIGN COUNTRIES.

Diversion of water from one stream for irrigation of land situate within the drainage area of another stream is and has been universal in foreign countries wherever irrigation has prevailed. (1446, 3597.) It was practiced before the time of Christ (1467), and has since prevailed on the eastern hemisphere. (1445-1519, 3907-8.)

(a) *India.*

India furnishes the most notable example, largely because of the scale on which the work has been constructed and also from the fact that it is a country that has been densely populated for thousands of years and has been, in many respects, one of high civilization.

On the north are the Himalaya Mountains of very high elevation with large rain-fall, filled with glaciers and glacial lakes in many places. At the base, on the south, the peninsula is practically cut across by the river systems of the Indus and Ganges, the former flowing westward to the Indian Ocean and the latter eastward to the Bay of Bengal. These two streams catch all the run-off of the Himalaya Mountains and have many large tributaries, some running into the Ganges and the Indus, large tributaries, some running into the Ganges and the Indus. The divide in the central part of the continent is rather low, and there are mountains in the central parts of India and Hindustan south of these rivers. (1447.)

There have been inter-watershed diversions from these streams from a very early date. It was a country of intense population, great intellectual development and centralized authority. (1447.)

The Jumna is the western tributary of the Ganges and is almost on the border line. It rises in the Himalayas and flows eastward into the Ganges. A tributary of the Indus is situated a few miles to the west. A canal was built across the watershed from the Jumna to the tributary of the Indus as early as the twelfth century by a celebrated Indian ruler, Feroz. His name is still identified with some of the cities and other portions of that country. After having been used for a number of years, the canal seems to have fallen into disuse and so remained until reconstructed in 1568 by Akbar, another ruler of great energy. It was again allowed to fall into disrepair through local strife and lack of energy of the rulers, but was rebuilt about a century later under the ruler Shah-Jeham. When the British took charge of the country, they found this canal in bad repair. Warren Hastings took an active part in attempting its reconstruction and his activities in this regard were made matters of accusation. The canal was practically rebuilt in 1820 by the English and reconstructed on a still larger scale in 1870 and is now 84 miles long, supplies 555,000 acres and carries about 800 cubic feet per second, carrying water as far as 125 miles west of the Jumna to Sirea. The canal is known as the Western Jumna and practically all of the acreage served by it is outside of the watershed of the stream that supplies it. (1448.) The canal has repaid the entire expense to the English Government and \$5,000,000 in addition, and also in addition to the taxes and returns received by the Government. (1449.) This canal, as well as the Eastern Jumna Canal, is designated on Sketch Map prepared by Prof. L. G. Carpenter, *Defendants' Exhibit 22*.

Near Bombay, a large reservoir, the Bhatode Tank, is an unfinished project of unknown date on the Meheree River, where water is carried from one watershed to another. (3907.)

A series of inter-watershed diversions are now under construction in the Indus valley. A number of old canals in that region run back to an unknown time, some of them built by private parties and some built by native rulers, as there are several native states that are not under British control.

The whole plain irrigated by the Western Jumna suffers at times through lack of sufficient water to obtain maximum production and the population is so great that in such cases there is famine and great loss of life. The English have planned to extend the diversion from tributaries of the Indus River. Each tributary is an enormous stream and has a large system of canals. These streams and the proposed canals to supplement the existing system are shown on *Defendants' Exhibit 23*. (1450.)

The English propose to build a canal starting from the Indus and running over to the Jhelum, a distance of approximately 60 miles. This water will then be available to supply the other ditches down the Jhelum and enable them to take out another ditch about 100 miles farther up the river that will carry water from the Jhelum over to the Chenab to supply other ditches on that stream and also to enable another ditch to be taken from the Chenab about 40 miles up stream and run a distance of about 100 miles to the Ravi, and then carried on beyond the Ravi to the lower Bari Doab canal. This is made possible by substitution of water through the canal for that diverted above. The taking of water from the Indus drainage, where the construction is now under way, is really intended to supplement the Bari Doab Canal, a distance of 50 miles or more, and to cross over the large streams by a system of exchange, but, in fact, carrying the water from the first stream across to the last. (1450-1.)

Defendants' Exhibit 24 portrays the canals on the upper portion of the Ganges River. It includes the Ganges, Jumna, Ramganga and others in the region covered by the Ganges canal. The enormous Ganges canal is about 600 miles long and carries water out of the Ganges basin over into the basin of the Indus and also over into the Jumna basin. In order to build the Western Jumna canal and to serve additional country west of the Jumna, a shortage of water would be occasioned to the Eastern Jumna canal and a plan has been considered of supplementing the supply of the latter canal from some of the other streams, probably by building the supply canal from the Sardah River, about 150 miles long and running over to the Ganges. The increased amount taken from the upper Ganges canal can be delivered to the Eastern Jumna canal by a branch about 20 miles long and thus decrease the demand on the Jumna River and increase the supply of the Western Jumna Canal which runs over on the other side of the divide. The result of this

proposed construction is to enable the water of the Sardah River to be used about 300 miles to the west and on the western slope of India while the Sardah is a tributary of the eastern slope. (1452-3.)

The Periyar project is in the Madras Presidency in southern India. Water from the Arabian Sea drainage is carried *through the continental divide by a tunnel* and delivered into the Vaigai River and carried in that stream a distance of about 60 miles to the land to be irrigated. The project includes a large reservoir at the upper end of the Periyar River on the Arabian Sea drainage and immediately adjacent to the 6,000 foot tunnel of the project. The water so diverted from the Arabian drainage is used to irrigate lands on the drainage of the Bay of Bengal. The project has been completed for a number of years and irrigates about 120,000 acres. This project is quite similar in many respects to the Greeley-Poudre project here in controversy. The reservoir is larger, but the tunnel is less than half as long as that of the Greeley-Poudre project. The two projects are also similar in that the stream in whose drainage the lands to be irrigated are situate is used as a carrier of the water for some 60 miles from the tunnel portal to the point of diversion or application. The similarity of the two projects will be further noted by consulting the sketch map prepared by Prof. Carpenter, *Defendants' Exhibit 25*. (1453-4.)

The Kurnool-Cuddapah canal, carrying 3,000 cubic feet of water per second, carries water between the drainages of the Krishna and Penner Rivers in the Madras Presidency in southern India. Two other projects, one above and one below the Kurnool are proposed, the upper or Krishna diverting water about 100 miles above the Kurnool and crossing several tributaries and the summit of the divide, watering land on both sides. The Krishna and Penner Rivers are independent streams, each flowing directly into the Bay of Bengal. Their watersheds are distinct from one another. The location of these canals is noted on the sketch map, *Defendants' Exhibit 26*. (1455-56.)

The projects mentioned are among the more notable of those in India. These diversions are from one stream to another that are not tributary to each other. There are many others on a lesser scale. (1456.) There are private ditches in India costing hundreds of millions of dollars that are not indicated in government reports and serving lands regardless of situation with relation to the principal streams from which the diversions are made.

No opposition has been offered to the construction of any of the immense canals of India by reason of their inter-watershed diversions. Such construction seems to be taken as a matter of course. (1457.)

(b) *France.*

In southern France irrigation is required. The rain-fall is light and water is available on the other side of the mountains from near Marseilles eastward along the Mediterranean. The same condition pertains to a large degree with the interior of the country along the Rhone for some distance from the coast, including that portion of the country settled by the Romans, whose ruins still remain. Adjacent to Marseilles, there are a number of canals brought from the Durance to the north. This stream is a tributary of the Rhone and drains a portion of the Alps, but is separated from the coast by mountains. On the south side of these mountains the rain-fall is very light and the country of beautiful climatic conditions, in the vicinity of Marseilles, Nice and Monaco. The land produces bounteously with the application of water, and, of consequence, diversions from other watersheds have been made from the earliest times. (1458.)

The Romans built canals of record length to supply a part of this country along the coast near Marseilles, and north of it is the plain known as the Crau, separated from the Durance by a divide of considerable elevation, and canals have supplied water to the plains from the Durance for some centuries. (1457.)

The Canal of Crapponne and the Canal del Alpine, both taking water from the Durance, convey it across the divide for irrigation on the plain. The Crapponne canal was built in 1650 by Adam de Crapponne. It covers the plains northwest of Marseilles and east of the old Roman city of Arles. A part of the water finally reaches the Rhone, but most of the land irrigated is not tributary to the Rhone but drains directly into the Mediterranean. *Defendants' Exhibit 32* is a photograph of a masonry aqueduct on this canal near the city of Arles. The Crapponne canal bears a strong resemblance to the Sky Line diversion of The Water Supply & Storage Company in Colorado, taking water from the Laramie River into the Poudre drainage and also the Grand River and Michigan River ditches of the same system, each of which will be hereafter more fully discussed.

The Alpine canal was built about 1772. It also diverts water from the Durance, crosses the same divide and serves much the same territory as that served by the Crapponne. These canals are noted on sketch map, *Defendants' Exhibit 27*. (1459.)

The Marseilles Canal diverts from the Durance, crosses the same range of mountains and serves land in the suburbs of Marseilles and also supplies the city with water. It was constructed between 1840 and 1850. It is a large canal with many aqueducts. (1459.)

The Verdon Canal diverts water from the Verdon River,

a branch of the Durance, and carries it over the mountain divide into the basin tributary to the city of Aix. It supplies the small town with water and irrigates the whole basin. It was commenced about 1863 and serves about 40,000 acres of land. Both the Verdon and Marseilles Canals are shown on *Defendants' Exhibit 27*.

The Carpentras Canal diverts water from the Durance at a point near the head-works of the Marseilles canal. It runs thence north, while the other French canals already mentioned extend south. This canal covers the territory between the Durance and the Aigues Rivers. It also crosses the historical stream Vaucluse and supplies territory near the city of Carpentras. This region has been irrigated from very early times. There is a charter for a ditch on file at Avignon dating back to 1101. The present Carpentras Canal is really an extension of ditches that were built at a remote period, so that the name properly applies to the extension. There are other concessions or charters of ditches dating back to the twelfth century, for instance, 1171. The present canal of Carpentras was projected in 1556, but the affair seems to have been suspended because of religious worries at that time, which resulted in the massacre of St. Bartholomew's Eve. The canal was taken up about a century later and encountered difficulty because of the financial panic due to John Law and his Louisiana scheme. Portions of it were constructed in 1780 and the present canal was completed in 1858.

In this case the water of the Durance is taken across a number of the tributaries of the Rhone and for a distance of something like 40 miles along the foot of the mountains. (1461-2, *Defendants' Exhibit 28*). An aqueduct of the canal as it crosses the Vaucluse is shown in *Defendants' Exhibits 33 and 34*.

The canal of the Gap is east of the Carpentras Canal and diverts water into the Durance watershed from the Isere watershed. The enterprise practically surrounds the Carpentras canal. It takes from the Isere, which empties into the Rhone 75 miles south of Avignon, and thence runs into the valley of the Gap, which is a part of the Durance watershed. It runs for some distance through an open channel and then through a tunnel nearly two miles long and then delivers into the valley of the Gap and distributes on both sides of the valley. While previous canals have taken water from the Durance, this canal brings water into the Durance watershed, reversing the operation, illustrating the general principle that where conditions require, these transfers occur as a matter of economic development. (1462-3, *Defendants' Exhibit 29*.)

The diversions in France differ from the diversions in India only in magnitude. The same general principle prevails.

If these French inter-watershed diversions had not been made, a probable loss of life in the vicinity of Marseilles would have followed and it would have meant the failure or suspension of population east of Arles on the great plains now supplied by this water and elsewhere in the vicinity of Avignon. The country would have been developed to but a very small extent had it not been for these inter-watershed diversions. Without irrigation, agriculture in southern France is on the verge of failure at all times and the irrigation has merely increased the productive capacity. (1463-5.)

The canal of Nimes, while not of the importance of those already mentioned, is nevertheless of historical importance. It illustrates the same general principles surrounding inter-watershed diversions. The city of Nimes was an old Roman city, like Arles, Avignon, Marseilles and Aix, and with slight rainfall in the summer. Water was needed for both irrigation and municipal supply. The city had a canal bringing water about 15 miles through tunnels and by means of celebrated aqueducts, of which the aqueduct known as Pont du Gard is one. This aqueduct is shown on the photograph, *Defendants' Exhibit 30*, taken in 1892 by Prof. L. G. Carpenter and shows the aqueduct at the lower end as it crosses the Gard. At about one-third its height is seen a series of arches attached to the side of the main aqueduct, built by the French in 1860 as an addition to the side of the aqueduct to support a road. The aqueduct itself was built a little before the time of Christ. The channel is above the uppermost series of arches and the structure is one of the most celebrated irrigation works in the world because of its beauty of proportions. In order to make this masonry conduit, there are three series of super-imposed arches carrying the tunnel. The water was taken to the city of Nimes and its vicinity. The aqueduct is now broken and in disrepair. By this aqueduct, the Roman baths, domestic requirements of the city, and irrigation of the lands were supplied. (1466-7.)

Defendants' Exhibit 31 gives a view through the tunnel a little below the end of this aqueduct shown on Exhibit 30. This tunnel was built by the Romans to carry water through the ridge.

(c) *Ceylon.*

The Abonganga series of works in the island of Ceylon involves the transfer of water from one watershed for use upon another. (3907.)

(d) *Asia Minor.*

Transfers between the Tigris and Euphrates Rivers are very ancient and extensive and of historical importance. They

have recently attracted more or less attention because of recent restoration. There are a number of ancient canals still in existence and a good many take water from one of these streams and carry it across the divide for use within the drainage area of the other stream. During the last few years, projects costing many millions of dollars have been in course of construction and are largely completed. These are not altogether the rebuilding of old canals, but are, in the main, near the lines of the old canals that have fallen into disuse. (3907-8.)

(e) *Italy.*

Professor Carpenter in his testimony (1469) says:

"In Italy, the conditions are somewhat analogous to India, but on a very much smaller scale. That is, there are a series of streams coming down from the Alps on the north which join and form the stream known as Po. These streams coming from glaciers of the Alps, are quite large and fairly continuous because many of them are held by glacial lakes or reservoirs like Lake Como and Lake Maggiore.

This is the greatest region of irrigation in Italy because of the extent of the Valley of the Po, its water supply and ease of irrigation; but does by no means comprise the entire irrigation of Italy. It is the one that is spoken of in speaking of Italian irrigation.

The irrigation in the valley of the Po goes back to a very early date and there were large canals built in the twelfth and thirteenth centuries especially near Milan, a town near Venice. There are two canals known as the Naviglia Grande near Milan, and the Muzza Canal also near Milan, one coming from the west and one from the east. The Canal Biana was another large canal built lower down the Po, and there were quite a good many of considerable importance built at an early date. The Biana was built still earlier than the twelfth century. There were canals dating back very much further, but those represented the same characteristics that have been spoken of in the development of irrigation in the United States; that is, they were simply canals built to supply small areas or built by individual land holders which in some cases were the old monasteries; one of the largest was built by a monastery out of Milan. Then there were those of smaller canals built from springs, etc.

When they found the increased value from irrigation and the search for water came, they went farther for water supply and tapped streams further away, bring-

ing them across intervening streams. Projects were proposed and considered by the local association, and sometimes by the Government, and out of them all, two might be especially mentioned, that have been built and under consideration for a long time and led to a variety of plans, but all essentially to the same purpose and not materially differing in character. These two canals are the Cavour Canal and the Villoresi, the first named after the Italian statesman who accomplished the unification of Italy, and the second for an engineer who had been responsible for one of the plans of the second canal.

These two canals supplement each other something as some of the canals described in India on the Jhelum and Ravi. The Cavour Canal takes part of its supply of water from the Po and traverses the province of Piedmont. It takes a large part of its supply, however, from a wide stream, the Dora Baltea. That canal is used to irrigate a portion of Piedmont north of the Po River directly, and by supplying a system of canals that are already in existence. The latter would be called a system of exchange, supplementing the supply. It supplements the supply as obtained by those canals from other sources. It ends at the Ticino river on the east border of Piedmont."

The Cavour Canal, with some other canals starting near the city of Turin, derives its supplemental supply from the Dora Baltea, crosses the Elvo, Carvo, Sesia and other streams, supplying the lands of their watersheds, and ends near the city of Novaro on the Ticino. It was constructed between 1860 and 1870. (Sketch map, *Defendants' Exhibit 35*, 1471.)

The Villoresi Canal takes water from the Ticino below Lake Maggiore and irrigates the region north of Milan and extends to the east. It is what might be termed a "high-line" canal and was built more especially to irrigate the province of Milan, while the Cavour canal was for the province of Piedmont. The Cavour canal could have been extended into the Province of Milan, but its elevation would have been so low that it would not serve much of the territory capable of irrigation, so that the Villoresi canal was started from the Ticino at a higher elevation but is essentially an extension of the idea of the Cavour canal. It was constructed in 1880. (Sketch map, *Defendants' Exhibit 36*.)

Both the Cavour and Villoresi canals are constructed and are very extensive systems. The water is used entirely for irrigation in both cases. The annual rainfall is about 36 inches and the irrigation is used to supplement the precipitation. The canals serve one of the most densely populated regions in the world.

The canal Emilinio is something of the same character. It has been under consideration by the Italian Government for twenty years and was planned before that and designed to irrigate the region near Bologna, Parma and Ferrara on the south side of the Po and on the Adriatic Sea. It is planned as a large canal at the foot of the hills and described in parts 14 and 15 of the Italian Government reports on the "Carta Idrografio D'Italia." (1472.)

Professor Carpenter, further speaking of inter-watershed diversions in Italy, says: (1472.)

"There are no other instances of special note. There are some along the Apennines that are reported in these cases; but I have not made any particular attempt to trace these out. These are bound to be small; but would be in kind, illustrating the general principle shown by those already given, that they take water freely from any stream that may be available.

I have failed to find any objections ever presented of any such manner of diversion and application of water in Italy. I have looked through the Government reports and other literature of all kinds, some, by the way, running back to the fifteenth and sixteenth centuries, in a series of authors on water in Italy, and in no case has any reference to objection on any such score been made that I have found."

Prof. Carpenter made personal inspection of the Italian canals in 1892 in company with Italian engineers and on one or two occasions with Hon. E. S. Nettleton, during which inspection photographs were taken, three of which were offered in evidence in this case, *Defendants' Exhibits 40, 41 and 42.*

Defendants' Exhibit 40 is a view of the headgate works of the Cavour Canal, two miles below Turin.

Exhibit 41 is a photograph of intake of same canal from Dora Baltea, one of the streams from which the canal derives its supply.

Exhibit 42 is a photograph of Naviglio Grande Canal in the outskirts of Milan. (1482.)

(f) *Spain.*

Irrigation in Spain runs back to an unknown period and for that reason discussions of irrigation enterprises are meagre. The country was thoroughly irrigated in the time of the Moors and portions of the southern part of Spain have been irrigated from the earliest date. Rainfall at Madrid is about the same

as at Denver, 15 inches, and has about the same latitude and prevailing weather but considerably hotter. All of the ancient cities that were occupied by the Romans used aqueducts of great extent and considerable length. The custom of irrigation was common because of the necessities.

Prof. Carpenter says: (1473.)

"In some of the recent canals, the conditions are such that the canals take water across divides, but I have no maps, and very little descriptions except those like the Benares Canal and Isabella Canal. Both have been constructed for some years, and irrigate in the neighborhood of 70,000 to 75,000 acres each. The Tamante Canal was taken up some years ago, but I am not certain that it has been built. It was to irrigate nearly 600,000 acres. I am unable to present maps of those, and therefore cannot speak definitely as to the conditions; but along the Mediterranean Sea near Valencia there are some of the old canals dating to the time of the Moors, analogous to those on the India coast of Madras, where they take from one stream which flows into the Mediterranean and carry it over into another stream flowing also into the Mediterranean. Thus for instance, here is a canal from the Zucar and extending over into the Cataroja, and also canals from the Guadlaviar, extending likewise to the Cataroja, and also in the opposite direction one extending to the small stream of Rio Seco. These date back to a very early date.

This particular map that I refer to is given in Volume 2 of Tassa's description of irrigation in Spain."

(g) *Other Diversions in the Eastern Hemisphere.*

There are inter-watershed diversions between China and Turkestan where conditions are favorable, from the head of the Chinese rivers to those running into Turkestan. There are a number of canals taking water from one stream to another. (1474-5.)

At the extreme end of the Blue Nile, the English government proposes the construction of a tunnel about two miles in length, diverting water into another branch, which would naturally flow into the Nile about 300 miles below the Blue Nile, but instead of carrying the water down this stream, take it out across the Blue Nile over into a country not at present irrigated. (1475.)

The instances enumerated are typical of diversions prevailing on the Eastern Hemisphere, where many other such di-

versions undoubtedly occur wherever irrigation prevails. (1476.)

(2) HAWAIIAN ISLANDS.

There are a number of illustrations of inter-watershed diversions in the Hawaiian Islands.

In the Island of Oahu, water is taken from streams on one side of the island and across the divide for irrigation of lands situated along streams on the other side.

In the Island of Kausi there are a number of similar diversions. The Kekaha ditch carries water across at least one stream and into an entirely different watershed. The Olokele ditch takes water from the river of the same name and carries the water across a number of independent streams, all of which empty into the Pacific by their own channels. There are a number of other canals on the same island whose diversions are of a similar nature. There are also a number of diversions of this character in the Islands of Maui and Hawaii. Some of these canals are quite old and some are recent. (3904-5.)

(3) CANADA.

There are a number of inter-watershed diversions in Canada.

Prof. Carpenter, who was a member of the Irrigation Commission of the Province of British Columbia (1432), describes the inter-watershed diversions in British Columbia as follows: (1477.)

"In British Columbia, the conditions are there such that the streams are generally small and the valleys are narrow, and as a whole the conditions are not such where there would be any call for diversion. At the same time when acting as Commissioner for British Columbia and looking into the stream records, I found a number of instances where water was diverted across divides. There are other reasons also why they would not be expected to be present in any great number in British Columbia, because the country is very new in its irrigation development. There were, however, several instances that I recall where one stream came near enough to another with a feasible divide, so that water was brought from one shed to another.

This was the case, for instance, on the branch of a stream northwest of Ashcroft in British Columbia, where it was carried across the divide on land toward Spence's Bridge and towards Ashcroft. It was also true in the

vicinity of Lake Okanogan, a region which has recently been developing rapidly as a fruit country, where water has been taken from Nelson Creek to irrigate lands to the south over towards Michigan Creek and Kelowna. These are small diversions as compared with the matters which we have had examples of elsewhere. This last enterprise was planned but not constructed, at least at that time. The question was one of funds. Near Pentictom water was taken from Pentictom Creek to the north, irrigating the valleys of other branches running into Okanogan Lake.

There was a more noticeable transfer across the divides at the head of the Columbia further east between Columbia and the Kootenay. It happens in this case that conditions are quite favorable. These two streams start close together with a fairly wide mountain valley, so that the water in one runs one way and the water in the other to the north, the Columbia running north at that place. The enterprise was under construction there, taking water from one into the other.

The general physical conditions in British Columbia were not very favorable for such changes; but wherever such conditions were favorable, it was being proposed and considered without objection.

There was still another, that I am not able to locate the name.

There were several smaller changes of that kind that I found, as where water was changed by permission of the Commissioner. They had a system of permits by what in the early days was called the Gold Commissioner and he had charge practically of everything pertaining to the government and all permits were issued by him. In a number of cases I found permits of this character that planned the diversion of water from one stream to another. The physical conditions seem to entirely control in these cases.

As a member of the Irrigation Commission I did not raise any objection whatever. In fact the laws as they were, permitted it, and the laws as passed did not forbid it. It was considered one of the essential conditions to the development in an irrigated country, so it was left entirely permissible.

In Alberta, conditions are similar to the conditions in British Columbia, in fact, there are streams and large plains so that development can be carried on on a large scale, and development there is in the central government instead of the local government. British Columbia, I may say, in passing, has been in about the same re-

lation to Canada as Texas has to the United States, that is, Canada owns none of the lands of British Columbia, any more than the United States does in Texas. In Alberta, on the other hand, all public lands belong to the Central Government—to the Dominion of Canada.

There are a number of streams that start from the Rocky Mountains in Alberta, running to the east mostly in the Saskatchewan drainage area. The surveys were made to some extent in the first place by the Canadian Government and an extensive series of surveys has been made by the Canadian Pacific Railway.

I have maps here of the Canadian surveys, which may be referred to by title. In 1884, is one showing a proposed method of diverting water from the Elbow into the North Fork of Fish Creek. In the report of 1897, they present a map showing the location of a canal for diverting water from White Mud River to Swift Current Creek. Also from the South Saskatchewan River to the Regina Districts. There is one in the report of 1894 from Red Deer River into the Rose Bud, and these are the official government surveys of reports showing what they contemplated under Government supervision.

In the British Province of Alberta, in the Dominion of Canada, the more recent construction has been along the Canadian Pacific Railroad from the Bow and Red Deer and connecting them together.

Practically all of the diversions in Alberta are from one tributary of the principal stream to another tributary of the same stream. They are all in the Saskatchewan drainage area.

In the case at bar, the diversion of water is from one tributary of the stream to another, all in the Platte River drainage area. The conditions here correspond so far as that situation is concerned, with those in Alberta."

Defendants' Exhibit 37, a sketch plan of the Canadian Irrigation Surveys showing the proposed location of a canal diverting water from the White Mud River to Swift Current Creek is an official map of the Dominion of Canada, taken from the report of the Canadian Irrigation Surveys of the Department of the Interior. (1480.)

This diversion is from a stream flowing into the Missouri watershed over into a stream of Hudson Bay drainage.

Defendants' Exhibit 38 is also a map made from the Canadian Irrigation Surveys, published by the Dominion of Canada showing proposed diversion of water from Elbow River into Fish Creek. (1480.)

Defendants' Exhibit 39 is another map from the same official report from the Irrigation Survey of the Dominion of Canada, showing the proposed method of diverting water from Red Deer River across the divide into Rose Bud River. (1481.)

Whether the projects shown upon the three sketch maps, Exhibits 37, 38 and 39 (from the official government publications) are constructed by the Government or some other parties they nevertheless are the work of and bear the sanction of the Government of the Dominion of Canada. (1481.)

In a letter from the Commissioner of Irrigation, Department of Interior of Alberta, to the State Engineer of Colorado, August 25, 1913, Hon. P. M. Sander, acting Commissioner of Irrigation, encloses a sketch map showing the various inter-watershed diversions of Alberta and mentions the following diversions in the following general classifications:

Continental Divide Diversions: Canadian Pacific Railway Company Irrigation scheme near Lethbridge, Alberta, to divert water from the St. Mary River, Hudson Bay drainage, and some of the waste water will run back into Pakowki lake drainage basin (no outlet) which lies in the Milk River drainage area, which is tributary to Missouri River and hence Mississippi River. With some extension of the above ditch, a considerable amount of water might go directly to Milk River drainage area. Under terms of International Waterways Treaty, U. S. Reclamation Service is diverting water directly from St. Mary River, Hudson Bay drainage into Milk River, Missouri River drainage.

Diversions from one main drainage to another: Canadian Pacific Railway Company, western section, near Calgary, Alberta, diverts from Bow River into drainage of Red Deer River; Canadian Pacific Railway Company, Lethbridge system, diverts from St. Mary River to Belley River; Southern Alberta Land Company near Medicine Hat, Alberta, diverts from Bow River into Belley River; Province of Alberta, near High River, Alberta, diverts from Highwood River, tributary to Bow River, into Little Bow River, tributary to Belley River.

Diversions from one tributary stream over the divide into watershed of another tributary stream of the same general drainage: Diversions from Battle Creek to Middle Creek, both flowing into Mile River.

Defendants' Exhibit 152 includes the above communication and the sketch accompanying the same. (3611.)

(4) UNITED STATES RECLAMATION SERVICE.

The United States Government, through its Reclamation Service, has entered upon the construction of several inter-

watershed or trans-mountain diversions. No heed seems to have been given to watersheds or natural barriers by the United States in its efforts at reclamation of the arid lands.

The Strawberry Valley Project in Utah takes approximately 160,000 acre feet of water from the Strawberry River and tributaries of the Green River (Colorado River drainage), stores the same in a reservoir and carries the same through a tunnel 19,100 feet long, to the Spanish Fork River for use upon lands in that drainage. Strawberry River is of the Gulf of California drainage, while the Spanish Fork River is a stream in the great basin of Utah and ultimately discharges into the great Salt Lake, which has no outlet. (1483-4, 3603.)

Defendants' Exhibit 43 is a sketch map showing the Strawberry Valley Project and the general relation of the tunnel and diversion with respect to the Colorado River and also with respect to the interior basin of Utah. The Jordan River connects Utah Lake, shown on the sketch, with Great Salt Lake. Water diverted from the Strawberry River and the Gulf of California drainage into the Jordan River and the Salt Lake drainage will not go down Strawberry River and will not return to that stream, but must be finally evaporated in the interior basin. This case is more extreme in its nature than the diversion of water from one tributary to another tributary of the same stream. (1485.)

The Milk River project, a portion of which is called the St. Mary Project, also involves an inter-watershed diversion. It is located in northern Montana. The St. Mary is considered as a supplementary part of the Milk River Project. St. Mary River is a tributary of the Saskatchewan and is a part of the Hudson Bay drainage. The water from this stream is diverted into Milk River, which is a branch of the Missouri, hence the diversion is, in effect, one from the Hudson Bay drainage in Canada to the Gulf of Mexico drainage in the United States. It is almost opposite in character of diversion from that shown on Exhibit 37, but evidences the fact that both Canada and the United States are willing to transfer water across divides in the same way. Sketch map, *Defendants' Exhibit 44*, shows St. Mary or Milk River project and other facts concerning the proposed diversion. The diversion is another example of the same principle involved in the Strawberry River project. It is not only from one watershed to another, but from one ocean to another. (1485-6.)

The Truckee-Carson project diverts water from the Truckee River near Wadsworth, Nevada, and carries it to the Carson River drainage basin. The entire flow of the Truckee River has been diverted into the Carson River basin for irrigation, so that there is no water running into Pyramid Lake. (3604-15, 3905.)

The Uncompahgre project in Colorado diverts water through the divide between the Gunnison and Uncompahgre Rivers by means of a tunnel some six miles in length. The water is diverted from the former for application upon lands situate along the latter stream. (1487.)

(5) SEVERAL STATES OF THE UNITED STATES.

There are many notable examples of inter-watershed diversions in the several states of the arid region and particularly in California, Utah, Montana, Idaho, Nevada, Oregon and in both Colorado and Wyoming.

(a) *California.*

The Los Angeles aqueduct is the most notable example in California. It has been built under public auspices and carries water for a distance of 250 miles from the Great Basin across two watersheds and finally delivers on the Pacific coast drainage. It diverts water from Owen River on the east side of the Sierra Nevada Mountains and conveys the same across this range of mountains, across the head of the San Joaquin Valley and across a second range of mountains known as the Sierra Madre or Tehachape Mountains. This diversion from the Nevada or Great Basin drainage for use upon the Pacific Ocean drainage is authorized in connection with the City of Los Angeles, which required water for domestic, irrigation, power and other purposes. Like all other similar diversions, the obtaining of water from this remote source was a matter of necessity. They not only divert the water of Owen River, but intercept a number of intermediate streams, so that the final carrying capacity is about 900 cubic feet per second. The right of the City of Los Angeles to construct this enormous enterprise, costing in the neighborhood of \$25,000,000, has not been questioned. (1488-9, 3614.) (See sketch map, *Defendants' Exhibit 45.*)

The Hetch-Hetchy Project is another California project in process of construction for supplying water to San Francisco. Although San Francisco has been using water from a foreign watershed for a number of years, under pressure of need, they have been compelled to go into the Sierra Nevadas and obtain water from the Yosemite basin. This they intercept and carry across the divide and down to San Francisco. (1489.)

The notable features of the two California inter-watershed diversions just mentioned are the cost and magnitude of the enterprises, and, also, that they are contrary to the accredited riparian custom of that state, showing that necessity has forced them to practice this method.

The Truckee-Carson project already mentioned also involves inter-watershed diversion by the United States Reclama-

tion Service of water arising in California. Lake Tahoe lies across the boundary between California and Nevada. Nearly all its watershed is in California, as is also the Truckee River, its outlet which flows into Nevada and terminates in Pyramid Lake. The Reclamation Service is diverting the entire flow into the Carson River for irrigation under the Truckee-Carson project, so that in 1913 no water was running into Pyramid Lake. (3615.)

(b) *Utah.*

There are numerous inter-watershed diversions in Utah. W. D. Beers, State Engineer, says:

"Will state that it is permissible in this state to divert water from one main drainage area into another and also from the watershed of one stream into the watershed of another stream when both are tributary to the same drainage area. * * * We have no diversions across the Continental Divide in this state." (3600-1.)

In a later letter, the same authority states:

"Regarding the diversions of water from tributary streams where water is carried into the watershed of other streams of the same general drainage area, will state that such diversions are quite numerous in this state."

According to the same authority, there are nine diversions from one main drainage area to another, as shown by the records in the State Engineer's office at Salt Lake City, Utah, either constructed, in process of construction, or proposed. (Beers, 3602-3.)

The Strawberry Valley project of the United States Reclamation Service has already been mentioned, diverting 160,000 acre feet from the Strawberry River of the Gulf of California drainage over to the Spanish Fork River in the Salt Lake drainage. This is probably the most notable of the Utah diversions. (3603.)

The Burt and Carkish Project for the diversion of 60,000 acre feet of water from Weber River drainage area across the divide into the Provo River drainage is probably the next largest diversion from one main drainage to another in Utah. (Beers, 3603.)

According to State Engineer Beers (3603), there are also diversions of like character as follows: The Timpanogas Irrigation Company project diverting water from Shingle and

Beaver Creeks of the Weber River drainage across the divide into the Provo or Utah Lake drainage;

The Murdock diversion from Beaver Creek across the divide into the Utah Lake drainage;

The Johnson diversion from the Joes Valley branch of the Green River across the divide to Ephraim Creek of the Sevier River drainage;

The Cutler project, diverting water from Weber River drainage across the divide into the Provo River drainage.

Porter project diverting water from Swaine Creek of the Sevier River drainage (which stream terminates in the Sevier Lake in the Great basin) over the divide into Kenab Creek of the Colorado River drainage. (3603.)

(c) *Montana.*

The Milk River project of the United States Reclamation Service is probably the most notable Montana project involving diversion of water from one main drainage area across the divide for application upon lands in another drainage area. In this case, the diversion is from the Hudson Bay drainage into the Missouri River or Gulf of Mexico drainage. (1485-6.)

A portion of the water supply of Butte is pumped from Big Hole River, a tributary of the Missouri, across the Continental Divide to Butte, which is on the Pacific slope. (3614.)

There is also a diversion between Montana and Idaho. (1487.)

(d) *Idaho.*

F. P. King, State Engineer of Idaho, states as follows:

"I cannot recall for purpose of identification, the numbers of permits involving a transfer of water from one shed to another, but know that such action has been taken *repeatedly without question.*" (3609.)

(e) *Nevada.*

Inter-watershed diversions are common in Nevada. The Continental Divide does not affect Nevada, hence there are no diversions of that class. (3604.)

The most notable diversion is the Truckee-Carson canal of the United States Reclamation Service, already referred to, carrying water from the Truckee River to the Carson River drainage basin. (3604, 3615.)

Other small inter-watershed diversions constructed years ago occur from the drainage basin of the Truckee River. The Carson and Tahoe Lumber & Fluming Company diverted water from the drainage basin directly to Lake Tahoe and discharged

it into the Carson River drainage basin. Lake Tahoe is the head of the Truckee River.

The Virginia City Water Company are now diverting water from Marlette Lake and its tributaries, within the Truckee drainage basin above Lake Tahoe, to Virginia City, discharging the surplus into the Carson River drainage basin.

There are old ditches diverting water from the Walker River drainage basin into the Churchill Valley, eventually discharging into the Carson River basin. (3604-5.)

(f) *Oregon.*

In Oregon there is a ditch which has been constructed for a number of years, taking water from the upper tributaries of Burnt River and carrying the same across the divide into Willow Creek, which is a tributary of Matheur River. (3902.)

Professor Carpenter, speaking of inter-watershed diversions in Oregon, says:

"There are other projects on Rogue River in southern Oregon. * * * Rogue River runs from southern Oregon into the Pacific Ocean. Kalamath River starts in Oregon and runs into California. There is one case where a ditch has already been completed carrying water from Kalamath basin into the Rogue River valley and there have been one or two others that are projected, surveyed, permits granted and some steps taken towards construction. There are two or three of these projects which are of considerable size.

There is another known as the Teel Irrigation District in Umatilla County, Oregon. In this case they propose to take water from tributaries of John Day River, carrying it across the divide into Butter Creek and then to irrigate land with this water near the Umatilla Government project in Oregon. This enterprise is projected. It is in a state of suspense waiting for funds, but the permissions have been granted and everything is ready to take up construction upon obtaining of funds. I have maps of all these projects, but unfortunately have mislaid them." (3902-3.)

(6) COLORADO AND WYOMING.

Colorado and Wyoming are similarly situate. Their mountain ranges form the Continental Divide and from their slopes waters flow into the two great oceans. (2992.) Both states are in the arid region and their plains originally constituted a portion of the Great American Desert. In both of them the

climate is dry, with very limited rain-fall occurring at irregular intervals. Agriculture must depend almost altogether upon irrigation (1381-7), and, as we shall hereafter observe, in each state, from the earliest times, the rule of riparian rights has been abolished and the rule of appropriation in its broadest sense has been adopted.

We shall further observe that each state has universally recognized and approved the right of its appropriators to apply the water diverted from the streams upon lands requiring its benefit wherever the same may be located, without reference to the stream of origin.

The map, *Defendants' Exhibit 46*, prepared by Professor Carpenter, shows the states of Colorado, Wyoming and Montana and some of the territory in adjacent states and the courses of the streams whose inter-watershed diversions we shall hereafter particularly mention, and especially the Powder and Tongue Rivers as they rise in Wyoming, cross into Montana and join the Yellowstone, and the Laramie and Poudre Rivers as they rise and flow to join the North and South branches of the Platte River, which unite in Nebraska.

(a) *Colorado.*

Irrigation has been practiced in Colorado for a considerable time. In the Cache la Poudre Valley, the first irrigation on an extensive scale in the United States was practiced. Its conditions are quite advanced. Inter-watershed diversions are, and from the very first have been, quite common in this state. Whenever there was an available saddle or pass at an elevation not too great, and where there were streams flowing enough water to justify the expense, these diversions have taken place. They have been as essential to the reclamation of the lands as have been the construction of reservoirs or the exchange of water on streams. (Carpenter, 1490-3.)

The need of water for irrigation has caused inter-watershed diversions within the State of Colorado. Waters were first taken from the streams near by and subsequently from any other source of supply without discrimination. The same causes brought about the construction of these canals as led to the construction of canals of this character in France and India. (Carpenter, 1497.)

The diversion at the head of St. Vrain Creek across the divide and into the drainage of Left Hand Creek was one of the first to be made in Colorado. St. Vrain Creek rises on the Eastern slope of the Rocky Mountains near the summit of the Continental Divide and is a tributary of the South Platte River. Left Hand Creek is finally a tributary of the St. Vrain from the south. James Creek, a still smaller stream, takes its

rise between the St. Vrain and Left Hand Creek and makes a junction with the latter before it emerges from the foot-hills. Left Hand Creek and James Creek do not have a good natural water supply, and do not furnish sufficient water to irrigate the agricultural lands along the borders of Left Hand Creek upon the plains. In the early sixties certain settlers upon the plains along the valley of Left Hand Creek made appropriations of water from the stream for the irrigation of lands occupied by them. There was not enough water in the natural stream to supply their wants. At a certain point in the mountains, James Creek and the south fork of the St. Vrain are but a short distance apart. Taking advantage of this proximity of the two streams and channels, a ditch was cut through the narrow strip of land separating them. Thus water from St. Vrain Creek was carried over into James Creek and thence down the channel of that stream to Left Hand Creek and thence down Left Hand Creek and out upon the plains to supply the settlers with water for irrigation. This artificial channel was first constructed in 1863. By means of this inter-watershed ditch, the volume of water running in the channel of Left Hand Creek was more than doubled. An enlargement of this ditch was made in 1870, whereby the flow of Left Hand Creek was increased to about ten times its original size.

Subsequent appropriators upon St. Vrain Creek required the same water for use upon their lands that was diverted by the owners of the Left Hand Ditch and seized the water and destroyed the dams. The matter was then taken into court, and, as we shall observe hereafter, the diversion was approved by the Supreme Court in two decisions and by two different presiding justices. (See statement of facts and quotation from opinions in *Coffin vs. Left Hand Ditch Co.*, 6 Colo., 443, and *Oppenlander vs. Left Hand Ditch Co.*, 18 Colo., 142.) (Carpenter, 1496.)

Subsequent to the construction of the Left Hand Ditch, numerous other inter-watershed ditches were constructed in Colorado. These will be taken up more with regard to their location than the date of their construction. This class of diversions, as we shall hereafter observe, has been universally approved both by the statutes of the state and by the uniform decisions of its courts. A number of them are as follows:

The Cimarron Ditch takes water from Cimarron River over into Cow Creek and then delivers it into the Uncompahgre, which stream in turn delivers the water in the vicinity of Montrose and in the same neighborhood as the Gunnison tunnel project of the United States Reclamation Service. (1493.)

The West Cimarron ditch diverts water from West Cimarron River to the Uncompahgre and is similar to the Cimarron ditch. (1495.)

The Pine Ridge ditch is an old canal diverting water from the La Plata River to the Las Animas watershed. The La Plata is a tributary of the San Juan of the Colorado River drainage. This diversion is a case of diversion like the one at bar, from one tributary of the stream to another tributary of the same stream as both streams finally flow into the Colorado. (1494.)

The Overland ditch diverts water from Muddy Creek to Laroux Creek and the High Line Ditch diverts water from Surface Creek to Laroux Creek. (1495.)

Another ditch diverts water from Laroux Creek to a dry creek watershed and is another instance of the application of the general principle that where the physical conditions are appropriate, water is taken across the divide. (1495.)

The Montezuma Valley enterprise diverts water from the Dolores River by means of a tunnel into the Montezuma Valley, tributary to the San Juan River. Here again is a case almost identical with the case at bar, as it is between tributaries of the same principal stream. That ditch and tunnel were built in 1887 and have since been in operation. (1495, 1561.)

The City of Colorado Springs takes water from the south drainage of Pike's Peak, carries it through the divide in a tunnel over 6,000 feet in length and through a secondary tunnel about 700 feet in length and delivers it to the east drainage of the same peak. The south drainage of the peak is tributary to Beaver Creek, which flows into the Arkansas River near Florence, while the east drainage is into Fountain Creek, which enters the same stream near Pueblo. Thus the water is diverted from Beaver Creek across into the Fountain Creek drainage, where it is used by Colorado Springs for municipal, power and irrigation purposes. This is another example of diversion of water from one tributary for application on the watershed of another tributary of the same general stream. (1496.)

The City of Cripple Creek takes water from a branch of Beaver Creek, across the divide into Four Mile Creek. Both Beaver Creek and Four Mile Creek are tributaries of the Arkansas River stream system and here again is a case of diversion of water from one tributary to another. (1496.)

The Boulder Pass Ditch and other canals at the head of Boulder Creek and Clear Creek, tributaries of the Platte River (Atlantic drainage), divert water from Williams Fork, a tributary of Grand River (Pacific drainage). (1493-4.)

There are also several diversions planned at the head of Boulder Creek and Clear Creek whereby water will be diverted from Williams Fork and Frasier River, tributaries of the Grand River. Among these are the tunnel of the Henrylyn Irrigation District project and the tunnel proposed by the Moffat Railroad and the City and County of Denver. The

Henrylyn project is in process of construction. It proposes the diversion of water from Williams Fork, a tributary of the Grand River, for application on lands near Denver on the South Platte drainage. The Moffat tunnel enterprise also proposes to bring the water from the Pacific to the Atlantic side of the watershed, the water to be used for municipal and irrigation purposes. (1493, 1497-8.)

There is a canal diverting water from the Pacific drainage over into the Atlantic drainage at the head of the Arkansas River. (1496.)

A ditch on the head of Mosca, diverting water from Sand Creek, Rio Grande River drainage, carries water across the divide into the Huerfano River, Arkansas River drainage. This canal has been constructed for more than twenty-five years. (1496.)

At the head of the Cache la Poudre River, a number of important inter-watershed diversions have taken place in years past. These include the system here in controversy and are: Grand River, Michigan and Skyline Ditches of The Water Supply & Storage Company; Michigan Ditch of The North Poudre Irrigation Company; Divide and Wilson Supply ditch system, and the diversion by the Greeley-Poudre Irrigation District system made possible through its tunnel, collection ditches and reservoirs situate on the Laramie River. None of these diversions are for irrigation of lands within the watershed from which the diversion is made and in each instance the diversion is made from one stream for irrigation of lands situate within the drainage of another stream, the Cache la Poudre River.

The Cache la Poudre River, North Fork of the Grand River and the North Fork of the Platte River, with its tributary, the Laramie River, all rise in the same vicinity in Colorado. (1388.) In this vicinity the several ditches mentioned cross their several divides and convey water from the Grand and the North Platte drainage over into the Cache la Poudre or South Platte drainage. A comprehensive discussion of this area and the location of these several ditches is given by State Engineer Field. (1388-1400.)

Owing to the general development on the Cache la Poudre River, a shortage of water began to be felt in the early 80's, especially for irrigation of late and more valuable crops, such as potatoes, cabbage, sugar-beets, etc. The dependable supply of the stream having been exhausted, irrigators were compelled to look elsewhere and entered upon the construction of the trans-mountain or inter-watershed diversions. (1403-5.)

State Engineer Field (1404) thus described this class of diversions:

"The most difficult and expensive development undertaken is probably in the class of trans-mountain diversions. Here it is necessary to build canals in regions remote from labor, materials, and markets, through comparatively unoccupied territory and over lines where a large part of the work is through rock and along steep hillsides, where the seasons suitable for construction of canals are short and labor hard to obtain, where the most substantial construction is necessary, and where the utmost care must be exercised in the selection of the route and in the performance of the work. The ice and snow conditions of winter must be provided for and guarded against and tunnels of greater or less extent are generally necessary."

Of the Water Supply & Storage Company:

The Grand River Ditch diverts water from the north fork of the Grand River (Colorado River and Pacific drainage) across the Continental Divide and into the South Fork of the Cache la Poudre (Platte River and Atlantic drainage). The canal is about $7\frac{1}{2}$ miles long and was commenced in 1888. It is over 10,000 feet above sea level and used for irrigation of lands in the Cache la Poudre River drainage, situate under the Larimer County Canal, which forms the south boundary of The Greeley-Poudre Irrigation District. (1396, 1443, 1492, 1880, 2204.)

The canal from Michigan Creek diverts from a tributary of the North Fork of the Platte River in North Park, Colorado, over Cameron Pass of the Medicine Bow Range of mountains at an elevation of about 10,200 feet, and into the Cache la Poudre River, for irrigation of the same lands in the Cache la Poudre drainage; (1492, 2204-5.)

The Sky Line Ditch of the same company diverts water from the head-waters of the Laramie River in Colorado. This is the stream here in controversy and this diversion is the first and earliest trans-mountain diversion made from the Laramie River in Colorado. The canal was commenced in 1891 and was completed in 1893. It carries about 130 cubic feet per second (2209) of water across a low pass in the Green Mountains at the point of juncture with the Medicine Bow Range and discharges into the Cache la Poudre drainage at Chambers Lake. It has been in constant use since 1893 and the waters so diverted and carried over the mountains are used for the irrigation of the same lands served by the Grand River and Michigan River ditches; (1405, 2205-13).

Laramie Lake and Lost Lake diversion by the same company carries water, naturally draining from those lakes into

the Laramie River over into Cache la Poudre River by means of a short ditch uniting those lakes with Chambers Lake. Laramie Lake and Lost Lake are situate almost at the top of the Green Mountains. (1492.)

The cost of none of these Water Supply & Storage Company's diversions in any manner compares with that of the Greeley-Poudre system. (1492.) All have been used constantly since their construction under claim of right by priority of appropriation and without objection from Wyoming or her citizens.

The degree to which the arid lands have been reclaimed through the Larimer County Canal with waters obtained from these trans-mountain or inter-watershed diversions, is best illustrated by the photographs contained in album, *Defendants' Exhibit 119*.

Another canal diverting water from Michigan Creek (North Platte drainage) across the Medicine Bow Range and into the Cache la Poudre (South Platte drainage) was constructed by The Mountain Supply Ditch Company, subsequent to construction of the Michigan River ditch of The Water Supply & Storage Company and is now owned by The North Poudre Irrigation Company. This canal furnishes part of the supply of the North Poudre system lying north of the Larimer County canal and west of the lands comprising the Greeley-Poudre Irrigation District.

The Divide Canal and Wilson Supply Ditch, working in combination as one system, were constructed for diversion of water from the upper reaches of Deadman and Sand Creeks, tributaries of the Laramie River, over the divide and into Sheep Creek, a tributary of the Cache la Poudre. This water is used to irrigate lands under the Larimer & Weld Canal in the Cache la Poudre drainage. The agricultural development of the Larimer & Weld area is elaborately illustrated by album, *Defendants' Exhibit 120*.

The Greeley-Poudre Irrigation District enterprise was commenced August 25, 1902, for diversion of additional waters from the Laramie River by means of tunnel and system of collection ditches and reservoirs. (1395-1402, 1935, 2039, 3933.) The tunnel by which the combined waters carried by the collection ditches and reservoirs on the Laramie are conveyed to the Cache la Poudre drainage, located and completed at the point where the Cache la Poudre turns from its theretofore parallel course with the Laramie and runs directly away from the course of the latter stream, needs no further description.

(b) Wyoming.

Wyoming is geographically quite similar to Colorado. The water supply in both states is wholly inadequate to supply the

vast areas of arid lands otherwise capable of reclamation. Irrigation is necessary in both states and inter-mountain diversions are as prevalent in Wyoming as in Colorado.

Professor Carpenter makes the following general statement:

"Inter-mountain and inter-watershed diversions prevail in Wyoming. Wyoming is an arid state where irrigation is practiced under irrigation conditions and is therefore subject to the same general modes of action as other states and other countries.

With Wyoming, as with Colorado, Italy, India and France, wherever there has been a locality developing which needed water, they have obtained water either from adjacent streams or *from available foreign watersheds.*

There are quite a number of instances of this kind in Wyoming.

These diversions have been recognized by the State of Wyoming by permits given by the officials in charge of irrigation.

They have also been recognized by the Board of Control in giving adjudicated rights. Those adjudicated rights are similar to what we call water rights in this country" (referring to Colorado) "They are given by the Board of Control.

In Colorado they are fixed by the courts.

They are identically the same.

Wyoming has officially recognized all of these transfers and use of water from one shed into another." (1503-4.)

He further says:

"It is a fact that the complaining parties in this suit are doing the very thing of which they complain." (1514.)

The right of the appropriator to obtain his supply from any source, riparian, natural or foreign, has never been questioned in Wyoming, but, on the contrary, has been universally recognized and confirmed, especially by the quasi-judicial tribunals, the State Engineer and the Board of Control, by and through whom all of the water rights in that state are initiated, and, after construction, confirmed and decreed. The custom is there as universally accepted, recognized and confirmed as it is in the State of Colorado.

Professor L. G. Carpenter concludes his most remarkable and comprehensive testimony upon the question of inter-watershed diversions the world over by an extended discussion of

several of these Wyoming inter-watershed diversions, and we can do no better than quote from his testimony *in extenso*.

"The most marked instance is in northern Wyoming in the vicinity of Sheridan, which might be mentioned in detail and is very marked for a double reason, for its development has been to a greater degree than anywhere else and the marked conditions there have developed more than anywhere else I know of in the state.

In the first place, the land is at a low elevation, comparatively speaking, and that means that agriculture is more of an agricultural than of a grazing character, the land justifies higher prices and more extensive development. That is the first condition.

For a second reason, there also happen to be physical conditions near there encouraging the diversion of water quite readily at one particular place.

This has led to an extensive series of diversions from one watershed to another." (1503.)

"There happens to be a very convenient place for diversion between the Powder and Tongue River watersheds. There is a ridge of rock or rampart between the two sheds; but at one particular place it is broken so that there is a gap very much lower than the summit of the ridge. At the same place a tributary of the Powder River comes very close to the opening, so it required very little work to divert water through that opening.

On the north side, that is, the Tongue River side, the watercourse, a branch of the Prairie Dog, descends very rapidly, so that the country on the north side of that gap is lower than on the south side.

This gap has been a noticeable landmark in a sense, and so much so that the early travelers and wagon trains went through the gap and made it a point of crossing through this ridge.

That gives the physical conditions for these diversions.

Then, in addition to that, we have the relative fall of the land to the north and the relative early development of that same region, making additional water desirable. Hence, *it was the most natural thing in the world and a consequence of that same general principle, that they made a diversion through this gap.*

In doing this, they took water from North Piney Creek, which is a branch near the gap; but as the North Piney is not as good a stream as the South Piney, which is more or less east and to the south, they then, in addi-

tion, constructed feeding canals from the South Piney to the North Piney and bring water from the North Piney through this gap into the Prairie Dog Creek on the north watershed.

Prairie Dog Creek is used to some extent as a carrier of this water. They use both ditches and the Prairie Dog Creek for this purpose.

Permits and decrees were given for these diversions by the State Engineer and the Board of Control.

These permits are given to the waters of Piney Creek and the lands are described as lands along the Prairie Dog or other streams to the north.

These streams are tributaries of the Tongue River, they are part of the Tongue River system. The Piney is a part of the Powder stream system." (1508-9.)

"This particular place is the pioneer, almost, in Wyoming, for the two reasons already given, and also for the reason that the vicinity of Buffalo and Sheridan was one of the first in the state to become an agricultural community, hence those conditions developed there more than anywhere else in the state. When I speak of agricultural, I am distinguishing between that and what I call pastoral. I refer to the condition where cultivation of crops prevails.

The elevation of Sheridan is 3,750 feet, while the elevation at Laramie is over 7,000 feet, thus it makes that northern border of Wyoming a portion of the best agricultural section of the state from an economic standpoint.

There is a very extensive series of transfers of water from one watershed to another on the various tributaries of the Powder River which are south of Sheridan.

The ones I refer to as the most marked are those where water is transferred from a branch of the Powder River over into a branch of the Tongue River. *These two streams are entirely independent, both in Wyoming and Montana*, except as they physically mingle their waters after they enter the Yellowstone River.

The Powder River and the Tongue River in Wyoming are very similar in their general situation to the North Fork and the South Fork of the Platte River. These two streams are entirely separate in what might be called the parent state. After passing out of the parent state into another state, they then both enter into another stream and finally join their waters there.

In this case, the Tongue and Powder Rivers join their waters in the Yellowstone.

In the case of the Laramie and the Poudre Rivers,

they join their waters by the junction of the North and South Platte Rivers in Nebraska. *Both the Laramie River and the Poudre River are Colorado streams and their waters intermingle in another state.*"

"The diversions at Sheridan, Wyoming, are exactly parallel to the diversions from the Laramie River to the Poudre River in Colorado. The diversion from the Powder into the Tongue is made in Wyoming, while the two streams pass through another state.

I will speak of the diversions within the Powder River watershed before speaking of its diversion into the Tongue River watershed.

The Powder River watershed is just south of the Tongue River. In its watershed is the town of Buffalo and the irrigated section adjacent. Lake DeSmet is in that watershed. On the west side are the high mountains which supply these streams, and these streams, as a whole, are more abundant in the Powder River watershed than they are north of that tributary to Sheridan. *In these streams coming down from the watershed of the Powder River, there have been a large number of diversions from one stream to another.* For instance, there is a diversion from Clear Creek into French Creek, and from French Creek into the Johnson Creek. These streams I mentioned are tributaries of the Powder River.

* * * I am taking the transfer of water from the watershed of one branch to that of another branch of the Powder River system. There is also found a diversion that passes from French Creek across Johnson Creek. We likewise have a diversion from Piney Creek on the north to Shell Creek on the south, and also from Rock Creek over to Shell Creek. There is also a place in the mountains some ten or twelve miles west of there where the South Piney Creek and Rock Creek come close together. This offers a convenient opportunity to divert water from the South Piney over into Rock Creek.

Such diversions have been practiced for years and *that whole irrigated tract is interlaced with the use of water from one stream to another.*

The decrees or adjudicated rights have been made from one stream to another according to the original source of supply, irrespective of the location of the lands.

These diversions I have described are all within the general Powder River watershed, which is the more southerly of the two streams, the Powder and the Tongue.

Exhibit 47 is a sketch map showing the stream system in northern Wyoming, both of the Tongue and the Powder Rivers. It shows these various points where

water crosses from one stream to another, *and these particular points are marked with a cross.* The land which it supplies by water through transfer is marked by crossed lines. The extent of these cross lines does not indicate very accurately the land itself, but indicates its location in a general way. It also shows the principal ditches by simply taking the outside or typical ones that cross the divide. It does not extend beyond the Montana border. In the corner, there is a map on a small scale that shows its relation to Montana and the Yellowstone River, showing the general situation on a very much reduced scale.

Exhibit 47 shows the various diversions I have just testified about, that is, those taking water from one portion of the Powder watershed to another." (1504-7.)

"I next refer to the diversions from the Powder River over into the Tongue River watershed. The rights to this water are given in the State records of Wyoming as classed in with the appropriations from Piney Creek, and except by looking up the specific lands, it would not be revealed that the water is carried across the shed. In this particular case, the list of lands that have thus acquired rights have been platted on the topographical sheet and are shown in color.

Exhibit 48 is a map prepared on the Sheridan Quadrangle Sheet of the U. S. Geological Survey, with additional notations made under my direction, and which show in color the lands on the Tongue River watershed that are supplied by water from Piney Creek of the Powder River watershed.

These are the lands to which water has been decreed by the Board of Control of the State of Wyoming. That body consists of the State Engineer and the Division Superintendents and is the official body of the state to issue decrees to water.

In addition, the divide between the two streams is noted by broken line in this map in heavier ink, so as to indicate clearly where that watershed is. The ditches are not indicated in my notations. They are shown on the map by a blue line, corresponding to the stream. There are three or four colors used which indicate the course given of respective ditches through this gap. The coloring was done by me. There is a legend on the map showing what each color signifies.

There are some diversions in the same general vicinity in addition to the diversions I have noted on this map, that is, * * * there are quite a number of diversions within the Tongue River drainage itself, similar in

character to those referred to within the Powder River watershed.

It simply is a general practice there, and the conditions as mentioned are very favorable to such diversions, and consequently they have done there as everywhere else on the earth's surface, when the occasion justified it. They have carried water from one stream to another as freely as if no sheds were there, and the only conditions to be considered were physical and economical. These on the map, are represented in like manner as in case of the Powder River system, by cross at the point where the principal diversions are made across the sheds. It is not an exhaustive list. There are others in the extreme north and west of this map that are not shown here.

I was compelled to check the lands as fixed by the Board of Control decrees in order to ascertain which of these diversions from Piney Creek and the Powder River tributaries were inter-watershed in their character. The published list of adjudicated rights, published by the State, simply tells the name of the ditch, for instance, the Prairie Dog or Supply Company and puts it under Piney Creek, but gives no indication as to where the land is located, and this requires a list of lands in detail, which are not included in the published list." (1511.)

At a later time in his testimony, Professor Carpenter thus further referred to these Sheridan diversions:

"I spoke of such diversions being made within Wyoming in the vicinity of Sheridan. * * * It seems there are ditches in Montana on both of these streams below the Montana line, that is, there are ditches in Montana after these streams run from Wyoming into Montana and before either of them joins the Yellowstone. There are also ditches in Wyoming. I ascertained those facts from county officials in Montana counties." (3905.)

Professor Carpenter further says:

"There are several other instances of inter-watershed diversions in Wyoming that I know of and undoubtedly there are many that are arising, because wherever the conditions justify, such diversions are the natural consequence.

The diversion by the Wheatland project out of the Laramie River, known as the Wyoming Development Company's diversion, is an inter-watershed diversion.

Water is taken from the Laramie River by a tunnel into Blue Grass Creek, thereby taking Laramie River water over into the Sybille watershed, which, in turn, is a tributary finally of the Laramie. This is a diversion from the main stream across into the shed of tributaries.

*The difference between the diversion of the Wyoming Development Company and the diversion between the headwaters of the Poudre is one of degree only. The two streams come close together and the diversions would undoubtedly have been made just as freely if the Sybille had not entered the Laramie at all. It does enter the Laramie River, but I have no doubt from my knowledge of the mind of the people who developed the enterprise and the people who farm and need water, that those people would have diverted water just as quickly and just as freely, believing that it was perfectly right and proper, * * * whether the Blue Grass had gone into the Sybille and then into the Laramie or whether it had gone in the other direction. In other words, it is just as natural to take water when available there as it is for a hungry man to search for food.*

Had the Wheatland people not made the inter-watershed diversion by means of the tunnel, they could not have developed the Wheatland area, except to a limited extent. That diversion has rendered the whole Wheatland tract possible from an agricultural standpoint. The only difference between the diversion at issue in this case * * * and the diversion from the Laramie to the Blue Grass is one of degree, and that the streams come together again quicker in one case than in the other. Had the Wyoming Development Company's tunnel not been constructed, the water of the Laramie River would have gone on into the North Platte.

*The diversion by the Wyoming Development Company is recognized in Wyoming. * * * The courts and officials have recognized it, permits have been granted, the Board of Control has adjudicated it, and it is in the general list which has been subject to appeal, so that I think the final decree has not been entered. I am not aware of any objection having been raised to this diversion on account of its being inter-watershed in character. I have never heard any suggestion." (1511-13.)*

An examination of Plaintiff's Exhibit N will reveal the fact that the District Court of Wyoming has officially recognized and decreed this inter-watershed diversion for the Wheatland project.

Professor Carpenter further says:

"There is a diversion under construction in Wyoming where water is proposed to be *taken from the North Platte River and brought over into the Little Laramie River*, * * * by The Laramie Water Company, which system includes Lake Hattie Reservoir. * * * Water is taken from Douglas Creek, a part of the North Platte system, and brought into the Little Laramie * * * and thus taken from the North Platte River to supply the Laramie River. * * * It runs from the Little Laramie into Lake Hattie by means of a supply canal tapping the Little Laramie. If the waters of Douglas Creek were not intercepted and were allowed to flow as of nature, they would go into the North Platte River and into the Pathfinder Reservoir.

This is the same ditch concerning which Mr. Bishop as engineer for the Laramie Water Company testified. It is the same ditch sometimes known as Douglas Creek Ditch and testified to by other engineers who were witnesses for Wyoming and were employees of The Laramie Water Company. (1513-14.)

"I have found several references and plans of proposed diversions from one stream to another where maps have been presented and referred to in the State Engineer's reports.

Exhibit 49 is a reproduction of sketch maps in the reports of the State Engineer of Wyoming, showing proposed diversions from one stream to another. There are three of them. * * * These three sketch maps shown in Exhibit 49 are all from the 7th Biennial Report of the State Engineer of Wyoming.

The one taken from page 40 represents the Encampment Canal in the Platte River drainage basin, and its proposed route crosses several other tributaries of the Platte River System.

From page 39 of the same 7th report, is a proposed Basin Canal from the Grey Bull River and crosses the divide between the Grey Bull and the Big Horn, passing over the divide and dropping into the Dry Cottonwood and supplying some of the valley in the vicinity of Basin.

There are several other minor canals shown, noting proposed developments that are not interstream.

On page 44 of the same report is also shown a diversion proposed from the Shoshone River across the divide into the watershed of the Grey Bull and there are some ditches taken from the Shoshone River to the north, running into minor watersheds.

There are probably a large number of inter-watershed or interstream diversions varying only in quantity and degree throughout Wyoming. I have not looked up all these places where conditions are favorable, but where conditions so favor they are apt to be found." (1515-16.)

Complainant objects to Colorado taking water from the Laramie River for use upon lands in the Cache la Poudre watershed. It would be indeed remarkable if it were discovered that for many years Wyoming has been taking water from the Cache la Poudre over into the Laramie River drainage, and that her right so to do has been adjudged and decreed by quasi-judicial tribunals having jurisdiction so to do. Nevertheless, such is the fact, and while the diversion is comparatively small, it nevertheless serves to confirm the fact that such diversions are not only legal but universal in Wyoming as well as in Colorado and that they are sanctioned by the courts of one state to the same degree as they are by those of the other.

Professor Carpenter says:

"I have ascertained that the appropriators of Wyoming divert water from the Poudre River over into the Laramie River. There is a case where water is diverted just in the contrary direction to that proposed by the State of Colorado through the Greeley-Poudre system. Water is diverted from a tributary of the Poudre River by systems in Wyoming over into a tributary of the Laramie area or from the Poudre watershed into the Laramie watershed.

This diversion takes place in Wyoming under the sanction of the laws and regulations of Wyoming. *It is done in accordance with the permit of the State and by the rights which have been passed on and adjudicated by the official Board of Control.*

Defendants' Exhibit 50 is a map prepared by the State Engineer's office of Wyoming, of a portion of Tp. 12, North, Range 73 West, the southern boundary of this portion being the state line between Colorado and Wyoming. This is one of a series of maps prepared by the State Engineer's office of Wyoming, showing ditches and streams from which ditches have been taken in that state for the purpose of record in their office. They have a series of such maps covering most of the state where ditches have been built and rights have been recognized.

This, then, that I present, is the official map from their office, except that for clearness in this case I have marked over the streams and ditches in color to make

it more distinct. The streams are designated with red and the ditches with yellow. This was done to make them clearer, for, as this is a blue print, the lines are not very clear.

The Johnson ditch crosses the divide from Fish Creek, *which is a branch of Dale Creek in the Poudre River watershed and over into Willow Creek drainage area, which is a part of the Laramie watershed. The Hill Ditch* also apparently crosses the divide and is not so clearly marked.

These diversions are all of minor character, compared with the larger ones of which I have spoken. They are small as to the amount of acreage, *but they involve the same principle.*

Fish Creek is a small stream running into Colorado but having a good many diversions from it in Wyoming." (1516-18.)

"Fish Creek is one of the several tributaries of Dale Creek which is one of the tributaries of the Poudre River. It has no large drainage area, but there are a number of decrees from it in Wyoming. It is actually a tributary of Dale Creek." (1577.)

"The diversion of water from the head of Fish Creek over into the Laramie River drainage in small quantities * * * is an injury to the Poudre Valley. All the water of the Poudre River, especially on Fish Creek, Dale Creek and the North Poudre, is and has been needed for years. It is particularly needed during the summer season. * * *

The difference between this diversion and a larger diversion is entirely a question of degree. This Fish Creek diversion simply illustrates the natural tendency to obtain water where the land is situate, so that it can be used and to derive the water from any adjacent or available source." (1595-6.)

Reduced to final analysis, a denial of the right of Colorado and her citizens to divert the waters of the Laramie River for irrigation of lands in the drainage area of the Cache la Poudre will be to declare that similar diversions are unlawful in Wyoming. So to do, would necessarily involve not only the Wheatland area, within the Sybille drainage and largely dependent upon the inter-watershed diversion from the Laramie and its Wheatland Reservoir No. 2, as well as other minor inter-watershed diversions within that drainage, but also the Sheridan area, within the Tongue River drainage and reclaimed with waters from the Powder River, and many other of the most highly developed agricultural districts of Wyoming. The Lar-

amie and Cache la Poudre are both within the Platte River drainage and the Powder and Tongue Rivers are both within that of the Yellowstone, and diversions from one greater tributary to another differ only in degree from diversions between minor streams going to form either of the larger tributaries, and to confine the use of water to the particular drainage of origin, be it large or small, must needs impair or render wholly valueless a considerable portion of the agricultural areas of both Colorado and Wyoming.

We cannot concur in advocating so destructive and revolutionary a doctrine.

Professor Carpenter, speaking generally of inter-watershed diversions, says:

"I have covered a number of examples of inter-watershed diversions on both hemispheres, situate in several countries and several states of the United States. As I have before stated, they are illustrations of the fact that when water is needed for agriculture, they are going to, or are inclined to divert that water for that purpose whether it be from a stream adjacent or from a greater distance, and by a direct diversion or the intermediate use of reservoirs; *but in all cases, the diversion is actuated by the need and the opportunities to use that water. The fact of passing watersheds seems, in no case to be any more than a question of physical difficulty.* That is done as freely from one stream or a neighboring stream if the physical conditions permit and justify it. It has been recognized by practice and custom as a necessary thing to do. In each instance the object is to obtain water for irrigation of land, and in some cases for domestic use. Practically all the cases I have given have been for irrigation, at least that has been a very important part of the purpose. *There is no essential difference between the use of open ditches or tunnels for the purpose of making these inter-watershed diversions.* They are both means adapted to local conditions and accomplish the same general purpose. The selection of either of these means is merely an engineering problem." (1519.)

"The preservation of waters in their natural watershed for a period of years ranging from a few years to a thousand years or more for the purpose of future development has never seemed to enter the calculation. I have seen no case where they have seemed to give that any thought, except in the consideration as to where the greatest benefit might be." (1593.)

No attempt was made by the State of Wyoming to controvert or deny the facts and conditions described in the foregoing

testimony of Professor Carpenter, and it therefore stands as admitted by the plaintiff that the same rule of necessity and opportunity now and always has governed all diversions in Wyoming, regardless of natural watersheds, to the same degree and effect as at every other place and in every other country where arid lands require the artificial application of water in order that they may be rendered the more productive, and that the more productive those lands prove to be, the more marked has become the actual construction of inter-watershed diversions.

Unfortunately, throughout all the arid countries of the world, there seems to be more available land than water supply, and in Wyoming, as elsewhere, the economic and financial problems of overcoming the physical obstacles have been the only problems standing between the construction of these inter-watershed diversions for the reclamation of arid lands. In Wyoming as in Colorado, the state has elected to abandon absolutely the doctrine of riparian rights and has adopted the rule of rights to the use of water from the streams within her borders by priority of appropriation, preference being given exclusively in the order of priority of the initiation of such diversions, if followed with continuity and beneficial use is made within reasonable time under all the circumstances surrounding the appropriation, and without the slightest regard to the physical location of the point of diversion and the lands to be served. Furthermore, Wyoming has carried this doctrine to the extreme limit by already officially adjudging and decreeing to her citizens waters arising within her borders but flowing southerly and into the Poudre River in Colorado for irrigation of lands situate across the natural divide and within the drainage area of the Laramie River and thereby has officially decreed and sanctioned that which she, in this case, condemns as illegal if done by the defendants.

CAUSES OF INTER-WATERSHED DIVERSIONS.

Professor Carpenter, who gave this subject most exhaustive consideration, in part said:

"I have had occasion to observe diversions of water from one watershed to places of use upon another watershed the world over. It is practically a universal custom." (1445.)

"These diversions have been prompted through the *need of water* in one watershed with the other watershed providing the most feasible and practicable way of obtaining water. It simply is one step in supplying the need. In some other cases, it has been also governed

by some or other additional considerations, as, for instance, the place of greatest use.

If inter-watershed diversions had been prohibited in many instances I have observed, it would have prevented the development of a great many communities and of millions of acres. It would have lessened the food production for quite a large number of the human race, for, I think it is pretty well known, that practically seven-eighths of the food of the human race is raised by irrigation. This is not true of our Anglo-Saxon people, but of the people of the world as a whole it is true. So that immense areas would have remained idle and, as in India, the loss from death by famine would have been very much increased, in fact, some of these cases in India were forced for the prevention of famine.

The custom of using streams as natural carriers of water from one part of a system of works to another is as universal as the need. Whenever the stream is so situated and the land to be served is so situated that the stream is convenient for that purpose, it is done without limit. If the land is situated where the stream is not a convenient carrier, they bring it in another way." (1446.)

In speaking of this character of diversions in India, he concludes with the following remarks:

"These diversions are simply made whenever the conditions are favorable; if they have water they can get, they plan a diversion from it. * * *

In each of these cases I have specifically pointed out, had these inter-mountain or inter-watershed diversions been prohibited, it would have meant the loss of millions of lives by famine in India. In fact, many of these canals and diversions have been taken up as a result of a report of the Famine Commission of India about 1898, I think, that suggested some of them, but by no means all.

They are entirely a result of the natural growth and development of the region.

Decidedly larger areas are made productive by this method than would be otherwise. A great deal of the water would run to waste otherwise.

Necessity has produced the construction of most of these works.

I have looked through the government reports, * * * and I have never found any legal objection against these diversions because of their inter-watershed character. This class of diversions seems to be taken as

a matter of course, to which they seem to have no objection whatever. There seems to be no more objection presented to it than to taking from a stream within its own shed." (1457-8.)

Of the French diversions, he says:

"The general principles involved in the diversions in France are the same as the diversions in India to which I have referred. There is a difference in magnitude, but where the conditions call for the diversions they have done it. The diversions are the result of the same general conditions * * *.

If these diversions which I have mentioned had not been made in France, it would have made probable the loss of a great many lives at Marseilles, which has had in its past years a great loss of life from lack of water, and it would mean the failure or suspension of population east of Arles on those plains that now are very easily supported by this water, and so it is in the vicinity of Avignon." (1463.)

Of the canal of Nimes, he says:

"It is not a very large one in capacity, but still it illustrates the same facts, that they are inclined to build a canal under the pressure of need and without any thought where the water comes from as far as that is concerned or where it is applied." (1466.)

He further says:

"I have failed to find any objection ever presented in France to this manner of diversion and application of water in any of the descriptions of canals, projects, or in any literature on that subject that I have seen." (1472.)

In speaking of the Italian irrigation, he says:

"These illustrate the general principle shown by those already given, that they take water freely from any stream that may be available.

I have failed to find any objections ever presented to any such manner of diversion and application of water in Italy. I have looked through the government reports and other literature of all kinds, some, by the way, running back to the fifteenth and sixteenth centuries, in a series of authors on water in Italy, and in no case has any reference to objection on any such score been made that I have found." (1472.)

With regard to Spain, he says:

"I know of no objection having been raised to such diversions. I do not think there could have been any, because the practice has gone on so generally." (1474.)

Of diversions in Hindustan, he says:

"I know of no rule governing these inter-watershed diversions except the same rule that has been evidenced elsewhere, that where water is available and land was needing water, it was taken without any regard to divides or considering any more than the physical obstacles that needed to be overcome as to the water of the stream itself.

It was a mere physical difficulty." (1475.)

In speaking of such diversions in British Columbia:

"In a number of cases I found permits of this character that planned the diversion of water from one stream to another. The physical conditions seem to entirely control in these cases.

As a member of the Irrigation Commission, I did not raise any objection whatever. In fact, the laws as they were, permitted it, and the laws as passed did not forbid it.

It was considered one of the essential conditions to the development in an irrigated country, so it was left entirely permissible." (1478.)

In speaking of the various states:

"There are many notable examples of inter-watershed diversions in the several states. There are numerous cases in Colorado and Wyoming. There is one between Montana and Idaho, and, in fact, in nearly all of these states wherever the conditions require it.

Whenever it becomes necessary and feasible to bring water across the divide, wherever they have land on one side and find water on the other side of the divide, then they make the diversion." (1487.)

"I have not made detailed investigations of many of the other states. As I have previously stated, the conditions under which such diversions take place indicate that there has a certain development taken place. It has reached such a point that the local supply of water, if not exhausted, is at least so that the conditions justify their going some distance for water. This is an economic condition. When a state is just developing, they cannot afford to go too far for water,

especially when they can get it near by. Extreme conditions warrant the expenditure of larger sums of money to accomplish the irrigation of larger acreages. This occurs as the country becomes developed." (1490.)

Toward the close of the testimony, he says:

*"They are simply illustrative of the same general rule that I have been attempting to show to be universally true, which is, that whenever there is an occasion to use the water, whenever there is a need of water, people are going to obtain it from the stream that is nearest to them or the stream that is most accessible physically and financially and, whether a divide stands in the way or not, does not cut any figure, any more than it requires more capital. * * **

I have found cases of physical and possibly financial obstacles, but that has been all. There has been no difficulty or opposition from the fact that water was taken across the divide." (3901-2.)

Referring to the Hawaiian Islands, he says:

"It shows again that where water was needed and they have conditions that justify the expense, the construction is completed." (3904.)

Referring to the Truckee-Carson diversion of the United States Reclamation Service, he says:

"In fact in one of these transfers the water is taken from a stream that runs normally into one basin or sink, over into a stream or watershed which runs into another and entirely different basin or sink. That is done by authority of the U. S. Reclamation Service and in those, as in other cases, where divides have been matters that have come in connection with these enterprises, they have not been considered as a different condition and water has been carried across them as freely as across minor divides or ridges.

They have carried the water in this case just the same as they have in the case of the Strawberry project and the Gunnison project. * * *

In all those cases the water has been carried across the divide wherever the conditions justified it." (3894-5.)

Speaking further in regard to foreign countries, he says:

"In foreign countries there are a number of other

cases of inter-watershed diversions than those I noted. It is perfectly safe to assume that wherever conditions exist, such transfers of water will be found." (3906.)

"No doubt further search into the subject would develop information concerning large numbers of these inter-watershed diversions wherever proper conditions exist. Diversions of this kind will be found where water is needed on one side and where land is so valuable as to justify the expense.

Such diversions in such cases will be made just as naturally and just as much a matter of course as we know that a thirsty man will drink water." (3907.)

Inter-watershed diversions between tributaries of the same stream are in no essential manner different from those across continental divides. In discussing this phase of the case, Professor Carpenter says:

"This is done by the U. S. Reclamation Service and in those, as in other cases, where divides have been matters that have come in connection with these enterprises, they have not been considered as a different condition and water has been carried across them as freely as across minor divides or ridges." (3904.)

And again:

"From the standpoint of irrigation and development, I see no difference, unless it possibly be in degree, between diversions from the watershed of drainage of one ocean into the watershed of drainage of another ocean, or of a stream having no outlet, and between tributaries of the same stream. It is a condition that comes from a state of development and a state of need, and local conditions which either make it possible or impossible. Thus, at the head of the Big Thompson, diversion could only be made at great cost and so high up there would not be enough water obtained to justify the expense. At the head of Boulder Creek diversion could be made at a lower elevation and water caught and the expense justified, and the same in Wyoming where diversions can be made when conditions justify it." (1498.)

Mr. John E. Field, State Engineer of Colorado and for years an expert in irrigation matters for both the State of Colorado and the United States Government, says:

"In irrigated regions the custom is to go and get water where you can get it, whether it is from the same

watershed in which the land is situated or whether it is from some other watershed.

Inter-watershed diversions are made where necessity arises that will justify construction. As a rule, they are decidedly more expensive than intra-watershed diversions. As a rule the only obstacle is that of expense. Wherever there begins to be a water shortage, the irrigators or those desiring to build ditches or desiring to increase efficiency of their systems, look for other water supplies, and this search for additional water carries them into other watersheds, and, if not too expensive, these diversions are made.

The future needs of the district from which the water is taken are never considered. Projectors of inter-watershed diversions simply ascertain whether there is any water there sufficient for them. *Their necessities have come earlier than those in the drainage area itself and are supplied first, and they take their water in order of priority, regardless of whether it is to be used in the same watershed or in a different watershed.*" (3596.)

As illustrative of the principle which the record in this case bears out, it might be permissible to refer for the moment to Prescott's "History of the Conquest of Peru," Volume 1, pages 131-2, where the author thus describes irrigation of the ancient Peruvians:

"Much of the country along the sea-coast suffered from want of water, as little or no rain fell there, and the few streams, in their short and hurried course from the mountains, exerted only a very limited influence on the wide extent of territory. The soil, it is true, was, for the most part, sandy and sterile; but many places were capable of being reclaimed, and, indeed, needed only to be properly irrigated to be susceptible of extraordinary production. To these spots water was conveyed by means of canals and subterraneous aqueducts, executed on a noble scale. They consisted of large slabs of freestone nicely fitted together without cement, and discharged a volume of water sufficient, by means of latent ducts or sluices, to moisten the lands in the lower level, through which they passed. *Some of these aqueducts were of great length. One that traversed the district of Condesuyu measured between four and five hundred miles.* They were brought from some elevated lake or natural reservoir in the heart of the mountains, and were fed at intervals by other basins which lay in their route along the slopes of the Sierra. In this descent, a passage was sometimes to be opened through rocks,—

and this without the aid of iron tools; *impracticable mountains were to be turned; rivers and marshes to be crossed*; in short, the same obstacles were to be encountered as in the construction of their mighty roads. But the Peruvians seemed to take pleasure in wrestling with the difficulties of nature. * * *

Most of these beneficent works of the Incas were suffered to go to decay by their Spanish conquerors. In some spots, the waters are still left to flow in their silent, subterraneous channels, whose windings and whose sources have been alike unexplored. Others, though partially dilapidated, and closed up with rubbish and the rank vegetation of the soil, still betray their courses by occasional patches of fertility. Such are the remains in the valley of Nasca, a fruitful spot that lies between long tracts of desert; *where the ancient water-courses of the Incas, measuring four or five feet in depth by three in width, and formed of large blocks of uncemented masonry, are conducted from an unknown distance."*

At page 134:

"With such patient toil did the Peruvians combat the formidable obstacles presented by the face of their country! Without the use of the tools or the machinery familiar to the European, each individual could have done little; but acting in large masses, and under a common direction, they were enabled by indefatigable perseverance to achieve results, to have attempted which might have filled even the European with dismay."

On page 137:

"Such were the expedients adopted by the Incas for the improvement of their territory; and, although imperfect, they must be allowed to show an acquaintance with the principles of agricultural science, that gives them some claim to the rank of a civilized people. Under their patient and discriminating culture, every inch of good soil was tasked to its greatest power of production; while the most unpromising spots were compelled to contribute something to the subsistence of the people. Everywhere the land teemed with evidence of agricultural wealth, from the smiling valleys along the coast to the terraced steeps of the Sierra, which, rising into pyramids of verdure, glowed with all the splendors of tropical vegetation."

And on page 364, he further describes irrigation works of the Incas:

"The soil, though rarely watered by the rains of heaven, was naturally rich, and wherever it was refreshed with moisture, as on the margins of the streams, it was enamelled with the brightest verdure. The industry of the inhabitants, moreover, had turned these streams to the best account, and canals and aqueducts were seen crossing the low lands in all directions, and spreading over the country, like a vast network, diffusing fertility and beauty around them. The air was scented with the sweet odors of flowers, and everywhere the eye was refreshed by the sight of orchards laden with unknown fruits, and of fields waving with yellow grain and rich in luscious vegetables of every description that teem in the sunny clime of the equator. The Spaniards were among a people who had carried the refinements of husbandry to a greater extent than any yet found on the American continent; and, as they journeyed through this paradise of plenty, their condition formed a pleasing contrast to what they had before endured in the dreary wilderness of the mangroves."

That this description by the eminent historian was conservative, we need but refer to the learned article and especially the photo illustrations accompanying the same, recently prepared by O. F. Cook, Botanist of the National Geographic Society, and published in May, 1916 number (Vol. XXIX, No. 5, p. 474, et seq.) of The National Geographic Magazine under title of "Staircase Farms of the Ancients," wherein he says in part:

"At a time when our ancestors in northern Europe were still utter savages, clothed only with skins, and living by hunting and fishing, settled agricultural communities must have existed in the Peruvian region. * * * Even irrigation agriculture appears to us as a new and very specialized branch of the art, and we think ourselves very enterprising to have undertaken the reclamation of our so-called deserts in the Western States. * * * The native agriculture of Peru reached the stage of reclamation projects long before America was discovered by Europeans. *Our undertakings sink into insignificance in the face of what this 'vanished' race accomplished.*"

The late Clesson S. Kinney, in his recent (1912) treatise on the law of "Irrigation and Water Rights" and the arid

region doctrine of appropriation of waters, Volume 1, gives the history of ancient and modern irrigation in a most elaborate and comprehensive manner on pages 101 to 127 inclusive. For illustration, of ancient irrigation in the arid west and the extremity to which *necessity* drove the ancient builders, he says:

"One of the most marvelous engineering accomplishments of ancient or modern times is shown in discoveries which were made during the years of 1899 and 1900 in the lava beds of New Mexico. Hundreds of years ago, the geologists and archaeologists tell us, a system of irrigation reservoirs and ditches was operated in this Territory, which is not paralleled by anything of this nature in the United States today. The builders of these works, a people older than the Pueblo race, the native occupants of this section of the country, cultivated thousands of acres of now arid territory. Ditches wound in and out at the base of the mountain ranges, following the sinuosities of the larger canals in such a manner as to catch all the storm water before it was absorbed by the loose sand at the mountain's base. Reservoirs constructed at convenient places stored the water, from which it was led in cemented ditches across loose soil to the various points where it was required for irrigation. * * *

That they were highly developed, however, in agriculture, which is the mother of civilization, is shown by the evidences which they have left.

Their canals wind in and around for miles, showing a superior engineering knowledge in securing an exact and uniform fall; remarkable viaducts were used in crossing canyons, while a network of distributing ditches brought every available acre into use for tillage. Here was no irrigation by wandering tribes, or individual owners, or diverters of water; but a great system covering large areas, and by a people who were permanently settled in that region, carefully thought out and operated by a central head for the greatest good of the many and the utilization of the greatest possible acreage."

Kinney on Irrigation (2nd Ed.), Vol. 1, p. 121.

And thus we find that *necessity* has universally caused inter-watershed diversions and that wherever agriculture, the "mother of civilization," has prevailed upon the face of this earth, it has been the universal custom through all the ages to supply the *needs* of thirsty land with water from any available source whether within or without the drainage area of the stream from which the diversion was made, and that natural

barriers have interposed no obstacles, other than physical, to such diversions, which have been made across the divides as freely and as naturally as within the watersheds. And we also find that both Colorado and Wyoming have been no exception to this general rule; that inter-watershed diversions have been made as freely, naturally and beneficially there as elsewhere; and that the only limitation *within* each state upon all diversions (intra- and inter-watershed) has been that he who is first in time shall forever be first in right as against all who shall claim from the same source *within his respective sovereign jurisdiction*.

THE LAW OF INTER-WATERSHED DIVERSIONS.

Will be treated as follows:

- (a) *Riparian Rights.*
- (b) *Arid Region Doctrine of Appropriation.*
- (c) *Essential Differences Between Common Law and Appropriation Doctrines, Including Right to Make Inter-watershed Diversions.*
 - (1) Colorado Constitution, Statutes and Decisions.
 - (2) Wyoming Constitution, Statutes and Decisions.
 - (3) Other Decisions and Authorities.
 - (3-a) Hoge v. Eaton, Overruled.
- (d) *Plaintiff's Brief.*
- (e) *Conclusion.*

THE LAW OF INTER-WATERSHED DIVERSIONS.

In Volume I of this brief, we have discussed at length the law relative to the right of each sovereign state to regulate diversion and distribution of waters within her own borders in such manner as she may elect, including the right to change her doctrines or rules in such manner and as frequently as she may desire.

Kansas vs. Colorado. 206 U. S., 46-94; 27 Sup. Ct., 655; 51 L. Ed., 956.

United States vs. Rio Grande Irri. Co., 174 U. S., 690, 702-6; 19 Sup. Ct., 770; 43 L. Ed., 1136.

Clark vs. Nash, 198 U. S., 361, 370; 25 Sup. Ct., 676; 49 L. Ed., 1085.

Boquillas Cattle Co. vs. Curtis, 213 U. S., 339, 345; 29 Sup. Ct., 493; 53 L. Ed., 822.

Kinnev on Irrigation (2 Ed.) Vol. 1, p. 1025-29, 1088.

A preliminary discussion of the rights of appropriators in the arid regions of the United States, to divert the waters of one stream for carriage across the divide of the watershed and for application within the drainage area of another and foreign stream requires a brief consideration of the common law doctrine of riparian rights in order that we may distinguish the rights of water users under that doctrine from those claiming under the doctrine of appropriation, and for the further purpose of interpreting decisions of courts of certain of the states which have adopted the common law rule in its strict or modified sense. We shall frequently italicize for better emphasis.

(a) *Riparian Rights.*

In Great Britain and the humid states of the United States, where the climate is moist, the natural rain-fall abundant and the land supplied by numerous springs and flowing streams, irrigation is not required. There the concern of the farmer is how he may dispose of surplus water, already so abundantly supplied by nature, rather than how he may supply his crops with sufficient moisture to start the seed and promote their growth.

"The problem there to be solved is how best to drain the water off the land and yet get rid of it, not how to save it to be conducted upon the land in aid of the husbandman."

In this humid region, *every proprietor of land on the banks of natural streams has equal rights to have the water of the stream to flow "as it was wont to run" without diminution in quantity or deterioration of quality save as necessarily depleted by reasonable use thereof by himself and other riparian proprietors.*

Long on Irrigation (2 Ed.) Sec. 31, page 66, and cases cited.

The common law doctrine of riparian rights is thus stated by Chancellor Kent:

"Every proprietor of lands on the banks of a river has naturally an equal right to the use of the water which flows in the stream adjacent to his lands, as it was wont to run ('currere solebat'), without diminution or alteration. No proprietor has a right to use the water to the prejudice of other proprietors, above or below him, unless he has a prior right to divert it, or a title to some exclusive enjoyment. He has no property in the water itself, but a simple usufruct while it passes along. 'Aqua currit et debet currere ut currere solebat' is the language

of the law. Though he may use the water while it runs over his land *as an incident to the land*, he cannot unreasonably detain it, or give it another direction, *and he must return it* to its original channel when it leaves his estate.

Without the consent of the adjoining proprietors, he cannot divert or diminish the quantity of water which would otherwise descend to the proprietors below. * * * This is the clear and settled doctrine on the subject, and all the difficulty that arises consists in the application. The owner must so use and apply the water as to work no material injury or annoyance to his neighbor below him, who has an *equal* right to the subsequent use of the same water; * * * All that the law requires of the party by or over whose land a stream passes is that he should use the water in a reasonable manner, and so as not to destroy, render useless or materially diminish or affect the application of the water by proprietors above or below on the stream."

Chancellor Kent, 3 Kent Com., 439.

Common law rights of riparian proprietors are such as grow out of or are connected with their ownership of the *banks* of streams and rivers, or other bodies of water. These rights are distinct from those of the rest of the public, by reason of the fact that the land of the riparian owner touches the water. They are termed natural rights and arise *ex jure naturae*, and are the natural advantages of the owner which spring from the natural situation of the land upon the water. The riparian owner has a right to make reasonable use of the water of the stream as it flows by his land, but his usufructuary right is *equal* with and no less nor greater than all that of *every other* riparian owner upon the same stream. Use by one riparian owner must be of such a character as not to destroy, render useless or materially diminish or affect every other proprietor on the stream in his equal right to the use of the same water. These property rights are part of the freehold of which no riparian owner can be disseized but by due process of law and upon a just compensation.

Kinney on Irrigation & Water Rights (2d Ed.),
Vol. 1, pages 759-73, and cases cited.

Professor Long, in his very recent work, says:

"The right of a riparian proprietor to the use of the flow of the water of the stream is an inherent incident of his ownership of the riparian land; it is annexed to the soil, not as an easement or appurtenance, but as a

part and parcel of the land itself. As a part and parcel of the land it passes with the land upon the sale thereof although not specifically mentioned in the conveyance. * * * *It follows from the nature of the right that it is in no way dependent upon user. Use does not create the right and disuse cannot destroy or suspend it.* If the riparian proprietor does not care or need to use the water, he still has the right to have it flow in its accustomed channel, except as its volume may have been decreased by its reasonable use by upper proprietors. His right can be lost only by grant, condemnation or prescription."

Long on Irrigation (2d Ed.), pages 70-1, and cases cited.

Mr. Kinney is also authority to the effect that:

The land, to be riparian, must be under a common ownership. If the use for which the water is claimed, consumes the water, the extent of the land must be reasonable with reference to the lands of other proprietors whose lands are also riparian to the same stream, and

Under the rule of riparian rights so obtaining in humid regions (including, as we shall hereafter observe, the largely humid region on the Pacific coast), the lands must lie within the watershed of the stream in order to be riparian. He says:

"If lands * * * bordering upon a certain stream are divided by Nature, so that a portion of them are cut off and lie in another watershed, such lands are *not* riparian to such stream. They belong to the lands of the other watershed, and, in turn, may or may not be riparian to the stream which drains such watershed, depending, of course, as to whether or not they touch upon such stream. In such a case Nature has interposed a dividing line and has cut off such lands from the lands actually riparian to the stream by the ridge dividing the two watersheds. *This is just as effectual as though the common owner had cut off such lands by conveying them to another person.*"

Kinney on Irrigation (2d Ed.), Vol. 1, pp. 782-3.

Under the riparian doctrine, the riparian owner

"May use the water while it runs over his land, as an incident to the land * * * and he must return it to its ordinary channel when it leaves his estate."

in order that *other riparian owners* (not appropriators), either

above or below him upon the stream, may not be deprived of an *equal right* to the use of the same water.

"The principal reasons for the rule *confining riparian rights to that part of the lands bordering on the stream* which are within the watershed are that, where the water is used on such land it will, after such use, return to the stream."

Long on Irrigation (2d Ed.), p. 95, and cases cited.

Mr. Wiel, in his recent work, devoted largely to advocacy of the California common-law doctrine of riparian rights, assigns the same reason for prohibiting use beyond the watershed in common-law states, viz.: That the water must return to the stream to supply the equal rights of other *riparian* land owners.

Thus it appears that in some jurisdictions under the common-law doctrine, the riparian owner is limited to the natural watershed of the stream in the use of its waters for the reasons: (1) That lands segregated by the divide are not riparian, and (2), that water carried beyond the divide cannot be returned to the stream for other riparian owners, each and all of whom have an *equal right* to the use of the water as it flows in the stream past their riparian lands.

It generally appears that, under the riparian doctrine, the use of water is limited and confined to riparian lands or lands which border upon the stream; that *all riparian* owners have the *same* natural and *equal right* to the use of the water of the stream, regardless of location on the stream or the dates of acquisition of title; the right is a part and parcel of the land and passes with the land upon sale; *use does not create and disuse cannot suspend or destroy the right*; the riparian owner is only entitled to the use of water as it passes along and the *equal rights of all* other riparian owners *prohibit exclusive use by any one* thereof; and each riparian owner must return the water to its ordinary channel when it leaves his estate in order that all other riparian proprietors may enjoy their equal right to the use thereof, and this, in turn, probably prohibits a diversion of any of the waters beyond their natural watershed, for, by so doing, the owner would be using the water upon non-riparian lands and could not return it to the stream.

The arid states have abrogated the common-law riparian doctrine in its entirety and have adopted the law of appropriation in lieu thereof. The doctrine of appropriation is in direct contrast with the common-law doctrine and differs, *inter alia*, in the following particulars:

Under the doctrine of appropriation, all rights are *necessarily unequal rather than equal*, and he who is first in time is

first in right, even to the extent of converting to his own and *exclusive beneficial use* the *entire flow* of the stream, if his necessities so require;

Beneficial use is the foundation of the right. It may be forfeited by non-user, and the physical situation of the land with relation to the stream bears no relation to the right, so vested, limited and perpetuated upon beneficial use;

The waters of the stream are the property of the public, the state, subject to appropriation in order of priority and beneficial use, and are not an incident to and part of the soil or the lands which, by accident, touch the stream;

The appropriator may change *both* the point of diversion and place of application, and *he has a property right in the water*, lawfully diverted to beneficial use, which he may sell and dispose of separate and apart from the land upon which the right ripened;

Kinney on Irrigation (2d Ed.), Vol. 2, Secs. 768-9, pp. 1326-32.

He is under no obligation to return the water to the stream, and in the enjoyment of his *exclusive* (as contrasted with equal) right, his use is not limited to lands which are riparian to the stream, but he may apply the same on non-riparian lands within the drainage of the stream or "whithersoever necessity may require," including lands in other and foreign watersheds; and

His beneficial use to the extent of the necessities of his land, wherever situated, coupled with the time (priority) of such beneficial use, defines the extent and order of his right.

Oppenlander vs. Left Hand Ditch Co., 18 Colo., 142, 148-9; 31 Pac., 854.

The common-law doctrine of riparian rights prevails in all the humid states and is the foundation of the so-called "California System" or doctrine which has generally been followed and adopted by Kansas, Montana, Nebraska, North Dakota, Oklahoma, Oregon, South Dakota, Texas and Washington.

Long on Irrigation (2d Ed.), pp. 19-21.

Kinney on Irrigation (2d Ed.), Vol. 2, p. 1103.

The doctrine of appropriation has been adopted and the common-law doctrine of riparian rights *abolished* in Colorado, Arizona, Idaho, Nevada, New Mexico, Utah and Wyoming. The doctrine of appropriation, in abrogation of and direct conflict with the common-law doctrine, as adopted in these states, is commonly known as the "Colorado doctrine," as distinguished

from the aforementioned "California doctrine," so founded upon the common-law theories.

Kinney on Irrigation (2d Ed.), Vol. 2, pages 1098-1124.

Long on Irrigation (2d Ed.), pages 19-63.

(b) Arid Region Doctrine of Appropriation.

We have already noted that in the states of the arid region, including Colorado and Wyoming, the common-law doctrine of riparian rights has been abolished and in lieu thereof these states have uniformly adopted the doctrine of acquisition of title to water by priority of appropriation for beneficial uses.

"The imperative and growing necessities" of the conditions prevailing in these arid states compelled the recognition and adoption of the law of prior appropriation, and each of the states, in the exercise of her sovereign right so to do, adopted the new doctrine and abrogated the old as unsuitable and wholly inapplicable to the conditions prevailing throughout the arid region.

Schodde vs. Twin Falls Water Co., 224 U. S., 107.

Boquillas Land & Cattle Co. vs. Curtis, 213 U. S., 339; 29 Sup. Ct., 493; 53 L. Ed., 822.

Kansas vs. Colorado, 206 U. S., 46, 94; 27 Sup. Ct., 655; 51 L. Ed., 956.

Snyder vs. Colorado Gold Dredging Co., 181 Fed., 62, 65.

Clark vs. Nash, 198 U. S., 361, 370; 25 Sup. Ct., 676; 49 L. Ed., 1085.

Gutierrez vs. Albuquerque Land & Irr. Co., 188 U. S., 545, 552-4; 23 Sup. Ct., 338; 47 L. Ed., 588.

United States vs. Rio Grande Irr. Co., 174 U. S., 690, 702-6; 19 Sup. Ct., 770; 43 L. Ed., 1136.

Coffin vs. Left Hand Ditch Co., 6 Colo., 443, 446-7.

Oppenlander vs. Left Hand Ditch Co., 18 Colo., 142; 31 Pac., 148-9.

Willey vs. Decker, 11 Wyo., 498, 529.

Farm Inv. Co. vs. Carpenter, 9 Wyo., 110; 61 Pac., 258.

Moyer vs. Preston, 6 Wyo., 308, 318.

Clough vs. Wing, 2 Ariz., 371, 381-2.

Reno Smelter M. & R. Co. vs. Stephenson, 20 Nev., 269; 21 Pac., 317.

United States vs. Rio Grande Dam & Irr. Co., 9 N. M., 292, 302-3.

Drake vs. Earhart, 2 Ida., 716; 23 Pac., 541.

Stowell vs. Johnson, 7 Utah, 215; 26 Pac., 290.

Kinney on Irrigation (2d Ed.), chap. 31, and cases cited.

Detailed consideration of the foregoing and the many other authorities in point would unnecessarily consume time of court and counsel, and the reason for the doctrine may be obtained by quoting from a few of the many available authorities.

The reasons announced in Clough vs. Wing, by the Supreme Court of Arizona are approved by this court in Boquillas Cattle Co. vs. Curtis, 213 U. S., 339, 347. In that case, Justice Barnes, after describing the antiquity of the irrigation works in Arizona and having shown that the riparian law which:

“Had its origin in the Island of Great Britain, under conditions of climate peculiar to its position”

is unknown to conditions in Arizona, says:

“Thus we see that this is the oldest method of skilled husbandry, and probably a large number of the human race have ever depended upon artificial irrigation for their food products. The riparian rights of the common law could not exist under such systems; and a higher antiquity, a better reason, and more beneficent results have flowed from the doctrine that all right in water in non-navigable streams must be subservient to its use in tilling the soil. * * * The common-law had been unknown; and that law has never been, and is not now, suited to conditions that exist here, so far as the same applies to the uses of water.”

Clough vs. Wing, 2 Ariz., 371, 381; 17 Pac., 453.

In Clark vs. Nash, Mr. Justice Peckham said:

“The rights of a riparian owner in and to the use of waters flowing by his land are not the same in the arid region and mountainous States in the West that they are in States of the East. These rights have been altered by many of the Western States, by their constitutions and laws, because of the totally different circumstances in which their inhabitants are placed, from those that exist in the States of the East, and such alterations have been made for the very purpose of thereby contributing to the growth and prosperity of those States arising from mining and the cultivation of an otherwise valueless soil by means of irrigation. *This court must recognize the difference of climate and soil, which render necessary these different laws in the States so situated.*”

Clark vs. Nash, 198 U. S., 361, 370.

"From these authorities we assume that the applicability of the common-law rule to the physical characteristics of the state should be considered. Its inapplicability * * * applies forcibly to the State of Nevada. Here the soil is arid, and unfit for cultivation unless irrigated by the waters of running streams. The general surface of the state is table land, traversed by parallel mountain ranges. The great plains of the state afford natural advantages for conducting water, and lands otherwise waste and valueless become productive by artificial irrigation. The condition of the country, and the necessities of the situation, impelled settlers upon the public lands to resort to the diversion and use of waters. This fact of itself is a striking illustration, and conclusive evidence of the inapplicability of the common-law rule."

Reno Smelting M. & R. Works vs. Stevenson, 20 Nev., 269, 21 Pac., 317.

"The Rio Grande, as we have said, flows through a region dependent upon irrigation. It is part of what is known as the arid region of this country. * * * Here the paramount interest is * * * the cultivation of the soil by means of irrigation. * * * The use of the waters of all these streams for irrigation is a matter of the highest necessity to the people inhabiting this region. * * * Prior to that time" (1866) "it had become established that the common law doctrine of riparian rights was unfitted to the conditions in the far West, and new rules had grown up, under local legislation and customs. * * * The doctrine of prior appropriation has been the settled law of this territory by legislation, custom and judicial decision. Indeed, it is no figure of speech to say that agriculture and mining life of the whole country depends upon the use of the waters for irrigation, and, if rights can be acquired in waters not navigable, none can have greater antiquity and equity in their favor than those which have been acquired in the Rio Grande valley in New Mexico."

United States vs. Rio Grande Dam & Irr. Co., 9 N. M., 292, 302-6.

After declaring that the maxim "first in time, first in right" should be the settled law in Idaho, the Supreme Court of that state says:

"Whether or not it is a beneficial rule, it is the lineal

descendant of the law of necessity. When, from among the most energetic and enterprising classes of the east, that enormous tide of emigration poured into the west, this was found an arid land, which could be utilized as an agricultural country, or made valuable for its gold, only by the use of its streams of water. The new inhabitants were without law, but they quickly recognized that each man should not be a law unto himself. Accustomed, as they had been, to obedience to the laws they had helped make, as the settlements increased to such numbers as justified organization, they established their local customs and rules for their government in the use of water and land. They found a new condition of things. The use of water to which they had been accustomed, and the laws concerning it, had no application here. *The demand for water they found greater than the supply, as is the unfortunate fact still all over this arid region.* Instead of attempting to divide it among all, thus making it unprofitable to any, or instead of applying the common law riparian doctrine, to which they had been accustomed, they disregarded the traditions of the past, and established as the *only rule suitable to their situation that of prior appropriation.* This did not mean that the first appropriator could take all he pleased, but what he actually needed, and could properly use without waste. Thus was established the local custom, which pervaded the entire west, and became the basis of the laws we have today on that subject."

Drake vs. Earhart, 2 Idaho, 750, 753; 23 Pac., 541.

Of the appropriation doctrine in Utah, the Supreme Court says:

"Riparian rights have never been recognized in this Territory, or in any State or Territory where irrigation is necessary; for the appropriation of water for the purpose of irrigation is entirely and unavoidably in conflict with the common law doctrine of riparian proprietorship. If that had been recognized and applied in this territory it would still be a desert; for a man owning ten acres of land on a stream of water capable of irrigating a thousand acres of land or more, near its mouth, could prevent the settlement of all the land above him. For at common law the riparian proprietor is entitled to have the water flow in quantity and quality past his land as it was wont to do when he acquired title thereto, and this right is utterly irreconcilable with the use of water for irrigation. The legislature of this Territory has

always ignored this claim of riparian proprietors, and the practice and usages of the inhabitants have never considered it applicable, and have never regarded it."

Stowell vs. Johnson, 7 Utah, 215, 225; 26 Pac., 290.

Many of the leading authorities upon this subject have been announced by the Supreme Courts of the States of Colorado and Wyoming. Some of these decisions will be quoted at length in treating of the matter of inter-watershed diversions under the doctrine of appropriation.

The Supreme Court of Colorado, in part says:

"The common-law doctrine giving the riparian owner a right to the flow of water in its natural channel upon and over his lands, even though he makes no beneficial use thereof, is inapplicable to Colorado. Imperative necessity, unknown to the countries which gave it birth, compels the recognition of another doctrine in conflict therewith. And we hold that, in the absence of express statutes to the contrary, the first appropriator of water from a natural stream for a beneficial purpose has, with the qualifications contained in the constitution, a prior right thereto, to the extent of such appropriation."

Coffin vs. Left Hand Ditch Co., 6 Colo., 443, 447.

"By the constitution and laws of Colorado, state and territorial, from the earliest times, rights to the beneficial use of water from natural streams have been acquired by diversion through prior appropriation rather than by grant."

Platte Water Co. vs. Southern Colorado Irr. Co., 12 Colo., 525, 531; 21 Pac., 711.

"The law of necessity rendered the common law doctrine of riparian rights wholly inapplicable in this jurisdiction, and as has frequently been stated, required its abrogation; so that * * * it has never been recognized as controlling in the matter of water rights. * * * Priority of appropriation for a beneficial purpose is the test by which this right is measured, as against others taking water from the same natural source."

Crippen vs. White, 28 Colo., 298, 302; 64 Pac., 184.

"The doctrine of this state that the common law rule of continuous flow of natural streams is abolished, is so

firmly established by our constitution, the statutes of the territory and the state, and by many decisions of this court, that we decline to reopen or reconsider it."

Sternberger vs. Seaton Co., 45 Colo., 401, 404; 102 Pac., 168.

While sitting as a judge of the Circuit Court of Appeals, Mr. Justice Van Devanter said:

"The *common-law doctrine* in respect to the rights of riparian proprietors in the waters of natural streams *never has obtained in Colorado*. From the earliest times in that jurisdiction the local customs, laws, and decisions of courts have united in rejecting that doctrine and in adopting a different one which regards the waters of all natural streams as subject to appropriation and diversion for beneficial uses and it treats priority of appropriation and continued beneficial use as giving the prior and superior right. * * * In so choosing between these inconsistent doctrines, Colorado acted within the limits of her authority, first as a territory and then as a state, and her choice was recognized and sanctioned by Congress, so far as the public lands of the United States were concerned."

Snyder vs. Colorado Gold Dredging Co., 181 Fed., 62, 65.

The Colorado doctrine of appropriation, to the exclusion and abrogation of the common-law rights, has always been recognized in Wyoming.

"The common law doctrine relating to the rights of a riparian proprietor in the water of a natural stream, and the use thereof, is unsuited to our requirements and necessities, and *never obtained in Wyoming*. So much only of the common law as may be applicable has been adopted in this jurisdiction. The doctrine invoked is inapplicable. A different principle better adapted to the material conditions of this region has been recognized. That principle, briefly stated, is that the right to the use of water for beneficial purposes depends upon a prior appropriation. Our statutes have repeatedly recognized this right, and the constitution of the State declares it. We incline strongly to the view expressed by the Supreme Court of Colorado, to the effect that such right and the obligation to protect it existed anterior to any legislation upon the subject. (Coffin v. Left Hand Ditch Co., 6 Col., 443.)

We esteem it unnecessary, if it would not indeed be superfluous, at this late day to enter into any elaborate discussion of the reasons which gave birth to this doctrine. It is the natural outgrowth of the conditions existing in this section of the country. The climate is dry; the soil is arid and largely unproductive in the absence of irrigation, but when water is applied by that means it becomes capable of successful cultivation. The benefits accruing to land upon the banks of a stream without any physical application of the water to the land are few; and while the land contiguous to water, and so favorably located as to naturally derive any sort of advantage therefrom, is comparatively small in area, the remainder, which comprises by far the greater proportion of our land otherwise susceptible of cultivation, must forever remain in their wild and unproductive condition unless they are reclaimed by irrigation. Irrigation and such reclamation can not be accomplished with any degree of success or permanency without the right to divert and appropriate water of natural streams for that purpose and a security accorded to that right. Thus, the *imperative* and growing *necessities* of our conditions in this respect alone, to say nothing of the other beneficial uses, also important, to which water has been and may be applied, has compelled the recognition rather than the adoption of the law of prior appropriation."

Moyer vs. Preston, 6 Wyo., 308, 318-19.

"Under the doctrine of prior appropriation, it would seem essential that the property in waters affected by that doctrine should reside in the public, rather than constitute an incident to the ownership of the adjacent lands. Such waters are, we think, generally regarded as public in character.

* * * In the arid region of this country another public use has been recognized by custom and laws and sanctioned by the courts. * * * This use, and the doctrine supporting it, is founded upon the *necessities* growing out of natural conditions, and is absolutely essential to the development of the material resources of the country. Any other rule would offer an effectual obstacle to the settlement and growth of this region, and render the lands incapable of continued successful cultivation. The waters for the reclamation of the desert lands must be obtained, in a very large measure, from the natural streams and other natural bodies of water.

The common law doctrine of riparian rights re-

lating to the use of the water of natural streams and o'her natural bodies of water not prevailing, but the opposite thereof, and one inconsistent therewith, having been affirmed and asserted by custom, laws, and decisions of courts, and the rule adopted permitting the acquisition of rights by appropriation, the waters affected thereby become perforce *publici juris*."

Farm Inv. Co. vs. Carpenter, 9 Wyo., 110, 136; 61 Pac., 258.

In the case of Willey vs. Decker, the court reviews a great many of the leading decisions of the states of the arid west upon this subject and adopts the general rule already announced.

The court says in part as follows:

"In this State, on the other hand, the common law doctrine concerning the rights of a riparian owner in the water of a natural stream has been held to be unsuited to our conditions; and this court has declared that *the rule never obtained in this jurisdiction*."

The court then quotes at length from that portion of the case of Moyer vs. Preston already cited, and after adopting the rule laid down in the case of Coffin vs. Left Hand Ditch Company, and the decisions of the Supreme Courts of other arid states, says:

"It will be observed that the doctrine of prior appropriation is established as a rule of imperative necessity, and the outgrowth of the custom of the earlier settlers upon the public lands for the purpose of mining or rendering the soil available for cultivation."

Willey vs. Decker, 11 Wyo., 496, 515, 519; 73 Pac., 210.

From the foregoing authorities, as well as those which we shall next consider, it would seem that the "imperative necessities" of the arid region compelled the rejection of the common-law doctrine of riparian rights and the adoption of the new appropriation doctrine, in direct conflict with the common-law rule, in each of the states of the region for regulation of the use of the waters flowing in the streams *within* the borders of each thereof.

The doctrine of appropriation has nothing in common with that of riparian rights, and their underlying principles are to be contrasted rather than compared. This is particularly true as regards geographical location of the lands which may be served,

where the common law limitations of use within the watershed have been abolished.

While an analytical discussion of each of the essential differences between the two doctrines, arranged in order of importance and under proper sub-titles, might be profitable, a general discussion of these essential differences by quotations from a number of leading authorities will sufficiently aid the court in arriving at a true interpretation of the right of the defendants to divert the waters of the Laramie River for irrigation of lands situate wholly within the foreign drainage area of the Cache la Poudre River.

(c) *Essential Differences Between Common-Law and Appropriation Doctrines, Including Right to Make Inter-watershed Diversions.*

We have previously noted that under the common-law doctrine, all owners of lands bordering and touching upon the stream have an *equal right* to the use of its waters as it flows from its source to the sea; that this right attaches as a part of the estate of the land-owner; that each of the owners of the lands bordering on the stream is entitled to make but a reasonable use of its waters, so that he will not infringe upon the like right of each of the other riparian land-owners to a similar use of the same water; that the right is not dependent upon use and is not forfeited by non-use; that no appropriator can obtain an exclusive right to the use of any portion of the waters as they flow and can only make reasonable use thereof upon his riparian lands and that he must return the water to the stream before it leaves his estate and accordingly cannot convey the water to lands in a foreign drainage from whence it cannot be returned to the stream of origin.

We have also observed that the common-law doctrine has been *entirely* rejected as unsuitable to the physical conditions and necessities of the arid region for *intra-state* diversions.

In rejecting the common-law doctrine in its entirety, each of the states of the arid region has, at the same time, rejected each of the fundamental principles upon which the doctrine is founded, including that which requires the water to be returned to the stream and prohibits its use upon lands in a foreign drainage, and we shall observe that under the doctrine of appropriation, the first appropriator may not only apply the water within a foreign drainage by reason of abrogation of the duty of return of water to supply the *equal* rights of all other riparian owners, but may also acquire the *exclusive* right to divert all of the water of the original stream if beneficial use so requires.

We will limit our discussion to the Constitution, statutes

and decisions of the courts of (1) Colorado, (2) Wyoming and (3) the decisions of the courts of other states and other authorities.

(1) Colorado Constitution, Statutes and Decisions.

Colorado has adopted the doctrine of appropriation and abolished the common-law rule of riparian rights in its entirety. The Constitution of the State provides:

"The water of every natural stream, not heretofore appropriated, within the State of Colorado, is hereby declared to be the property of the public, and the same is dedicated to the *use of the people of the state*, subject to appropriation as hereinafter provided."

"The right to divert the unappropriated waters of any natural stream to beneficial uses shall never be denied. Priority of appropriation shall give the better right as between those using the water for the same purpose; but when the waters of any natural stream are not sufficient for the service of all those desiring the use of the same, those using the water for domestic purposes shall have the preference over those claiming for any other purpose, and those using the water for agricultural purposes shall have preference over those using the same for manufacturing purposes."

Article XVI, Sections 5 and 6, Constitution of Colorado.

Inter-watershed diversions are recognized by statute:

"That whenever any person or company shall divert water from one public stream *and turn it into another public stream*, such person or company *may take out the same amount of water again*, less a reasonable deduction for seepage and evaporation, to be determined by the state engineer."

"Any person or company *transferring water from one public stream to another* shall be required to construct and maintain under the direction of the state engineer measuring flumes or weirs and self-registering devices at the point *where the water leaves its natural watershed and is turned into another*, and also at the point where it is finally diverted for use from the public stream.

Laws 1897, page 176, sections 1 and 2.

Sections 3748-9 Mills' Annotated Statutes. (Rev. Ed.)

Sections 3222-3, Revised Statutes Colorado, 1908.

"Whenever the owner or owners of any irrigation ditch, canal or reservoir *transferring water from one public stream to another* * * * in order that the same may be diverted therefrom for irrigation or any other purposes, shall fail and neglect to construct suitable and proper measuring flumes or weirs for the proper and accurate determination of the amount and volume of water turned into, carried through and diverted out of said public stream, then the state engineer or superintendent of irrigation shall * * * refuse to allow to be taken and diverted therefrom, any water whatever on account of delivery of water thereto, for such time and until such owner or owners shall cause to be erected or repaired such flumes or weirs at the point of delivery to and taking from said public stream so used as a conduit."

Laws 1901, page 194, section 2.

3 Mills' Annotated Statutes, Sec. 2286 b.

Revised Statutes of Colorado, 1908, Sec. 3249.

The section quoted from the law of 1901 was amended and re-enacted by the Legislature in 1911.

Laws 1911, page 464, Section 2.

Mills' Annotated Statutes (Rev. Ed.), Sec. 3773.

The Supreme Court of Colorado, at an early date, passed upon the above mentioned constitutional provisions and generally upon the abrogation of the common-law doctrine and the adoption of the appropriation doctrine. We have already quoted at some length from these decisions.

In 1882 the whole subject came before the court in a case involving the right of an appropriator to divert water for application within a drainage area foreign to the original stream. The decision by the late and learned Justice Helm is the leading authority in the United States upon the subject of inter-watershed diversions, and, as we shall later observe, is generally approved, not only by the Supreme Court of Wyoming, but as well by the state and federal courts in the arid region, and the United States. The controversy involved the diversion of water from the South Fork of St. Vrain Creek, across the divide to James Creek and thence along the bed of that stream to Left Hand Creek, which latter water-course was and since hitherto has been used as a ditch for distribution of these waters from the foreign stream by means of various smaller lateral ditches heading upon Left Hand Creek. The farmers

owning the land along Left Hand Creek thus served by waters from the St. Vrain Creek, claimed as appropriators, and the defendants proceeded to destroy the diversion dam and to take the water under claim of riparian ownership along the St. Vrain.

The opinion of the court reads in part as follows:

"It is contended by counsel for appellants that the common law principles of riparian proprietorship prevailed in Colorado until 1876, and that the doctrine of priority of right to water by priority of appropriation thereof was first recognized and adopted in the constitution. But we think the latter doctrine has existed from the date of the earliest appropriations of water within the boundaries of the state. The climate is dry, and the soil, when moistened only by the usual rainfall, is arid and unproductive; except in a few favored sections, artificial irrigation for agriculture is an absolute necessity. Water in the various streams thus acquires a value unknown in moister climates. Instead of being a mere incident to the soil, it rises, when appropriated, to the dignity of a distinct usufructuary estate, or right of property. It has always been the policy of the national, as well as the territorial and state governments, to encourage the diversion and use of water in this country for agriculture; and vast expenditures of time and money have been made in reclaiming and fertilizing by irrigation portions of our unproductive territory. Houses have been built, and permanent improvements made; the soil has been cultivated, and thousands of acres have been rendered immensely valuable, with the understanding that appropriations of water would be protected. *Deny the doctrine of priority or superiority of right by priority of appropriation, and a great part of the value of all this property is at once destroyed.*

The right to water in this country, by priority of appropriation thereof, we think it is, and has always been, the duty of the national and state governments to protect. The right itself, and the obligation to protect it, existed prior to legislation on the subject of irrigation. It is entitled to protection as well after patent to a third party of the land over which the natural stream flows, as when such land is a part of the public domain; and it is immaterial whether or not it be mentioned in the patent and expressly excluded from the grant.

The act of congress protecting in patents such right

in water appropriated, when recognized by local customs and laws, 'was rather a voluntary recognition of a pre-existing right of possession, constituting a valid claim to its continued use, than the establishment of a new one.' *Broder v. Notoma W. & M. Co.*, 11 Otto., 274.

We conclude, then, that the *common law doctrine* giving the riparian owner a right to the flow of water in its natural channel upon and over his lands, even though he makes no beneficial use thereof, is *inapplicable to Colorado*. *Imperative necessity*, unknown to the countries which gave it birth, compels the recognition of another doctrine in conflict therewith. And we hold that, in the absence of express statutes to the contrary, the first appropriator of water from a natural stream for a beneficial purpose has, with the qualifications contained in the constitution, a prior right thereto, to the extent of such appropriation. See *Schilling v. Rominger*, 4 Colo., 103." * * *

"It is urged, however, that even if the doctrine of priority or superiority of right by priority of appropriation be conceded, appellee in this case is not benefited thereby. Appellants claim that they have a better right to the water because their lands lie along the margin and in the neighborhood of the St. Vrain. *They assert that, as against them, appellee's diversion of said water to irrigate lands adjacent to Left Hand Creek, though prior in time, is unlawful.*

In the absence of legislation to the contrary, we think that the right to water acquired by priority of appropriation thereof is not in any way dependent upon the locus of its application to the beneficial use designed. And the disastrous consequences of our adoption of the rule contended for, forbid our giving such a construction to the statutes as will concede the same, if they will properly bear a more reasonable and equitable one.

The doctrine of priority of right by priority of appropriation for agriculture is evoked, as we have seen, by the *imperative necessity for artificial irrigation of the soil*. And it would be an ungenerous and inequitable rule that would deprive one of its benefit simply because he has, by large expenditure of time and money, carried the water from one stream over an intervening watershed and cultivated land in the valley of another. It might be utterly impossible, owing to the topography of the country, to get water upon his farm from the adjacent stream; or if possible, it might be impracticable on

account of the distance from the point where the diversion must take place and the attendant expense; or the quantity of water in such stream might be entirely insufficient to supply his wants. It sometimes happens that the most fertile soil is found along the margin or in the neighborhood of the small rivulet, and sandy and barren land beside the larger stream. To apply the rule contended for would prevent the useful and profitable cultivation of the productive soil, and sanction the waste of water upon the more sterile lands. It would have enabled a party to locate upon a stream in 1875, and destroy the value of thousands of acres, and the improvements thereon, in adjoining valleys, possessed and cultivated for the preceding decade. *Under the principle contended for, a party owning land ten miles from the stream, but in the valley thereof, might deprive a prior appropriator of the water diverted therefrom whose lands are within a thousand yards, but just beyond an intervening divide.*

We cannot believe that any legislative body within the territory or State of Colorado ever intended these consequences to flow from a statute enacted."

Coffin vs. Left Hand Ditch Co., 6 Colo., 443, 446-7, 449-50.

The doctrine announced in Coffin v. Left Hand D. Co., was affirmed by the Supreme Court of Colorado in Thomas v. Guiraud (6 Colo. 530-2), Justice Helm writing the opinion, in which the following language was used:

"We have recently held that the doctrine of priority of right to water by priority of appropriation thereof for a beneficial purpose, with the modifications declared in the constitution, is and always has been in force in this state. We have also decided that the *locus* of its application does not in any way affect the doctrine; and that a prior appropriator of water is entitled to it as against a subsequent settler upon the stream from which it is taken, although he carries it over an intervening divide and uses it to cultivate lands adjacent to another stream. *Coffin v. Left Hand Ditch Co.* (ante, p. 442.)"

The Court, in the same opinion, announces the right of the first appropriator to take all of the water in any stream, in the following language:

"Had there remained water in the stream after such diversion and use by Guiraud, plaintiff in error would

have had the undoubted right to appropriate the same. But since Guiraud diverted the usual flow of water to the full extent thereof, plaintiff in error could acquire no absolute right to any part of such usual or ordinary flow, when required by defendants in error; he might divert and use the same at such times as Guiraud and those who held under him were not in need thereof; and when there was an excess over the ordinary flow he might legally appropriate water to the extent of such excess; but when there was not enough for both, the diversion of plaintiff in error must give way to the prior right of defendants in error to the extent of Guiraud's original appropriations."

Justice Helm then announces the doctrine of appropriation of water in Colorado, in the following language:

"The true test of appropriation of water is the successful application thereof to the beneficial use designed; and the method of diverting or carrying the same, or making such application, is immaterial."

Thomas v. Guiraud, 6 Colo., 530, 533.

The opinion in *Coffin v. Left Hand Ditch Co.* was thus affirmed by the Supreme Court in 1888:

"Since the commencement of this action the questions presented have been passed upon by this court in *Coffin v. Ditch Co.*, 6 Colo. 443. In that case it was held that the common-law doctrine giving the riparian owner a right to the flow of water in its natural channel upon and over his lands, even though he makes no beneficial use of it, is inapplicable to Colorado; and that the first appropriator of water from a natural stream for a beneficial purpose has, in the absence of express statutes to the contrary, with the qualifications contained in the constitution, a prior right thereto, to the extent of such appropriation; and that this right is entitled to protection as well after patent to a third party of the land over which the natural stream flows as when such land is a part of the public domain; and it was further held that *the right to water acquired by prior appropriation is not in any way dependent upon the locus of its application to the beneficial use designed.* The questions determined in *Coffin v. Ditch Co.* are identical with the questions raised on this appeal, and such determination is in accord with the ruling on the demurrer. We do not feel called upon to enter into a discussion of these questions upon the merits."

Hammond v. Rose, 11 Colo. 524, 526; 19 Pac. 446;
7 Am. St. Rep. 258.

The facts involved in the controversy before the Court in the case of Coffin v. Left Hand Ditch Co., are set out more in detail in the opinion by Justice Elliott in Oppenlander v. Left Hand Ditch Co., rendered in 1892. The controversy involved the same diversion before the court in the former case. Justice Elliott describes the character of the diversion as follows:

"St. Vrain creek takes its rise on the eastern slope of the Rocky Mountains near the summit of the continental divide. Thus it has a good supply of water from the regions of perpetual snow. The general course of the stream is eastward through the mountainous regions of Boulder county, and thence across the plains, until it becomes a tributary of the South Platte River.

Left Hand creek is a tributary of the St. Vrain from the south; its general course is, also, eastward, until it forms a junction with the former stream some miles out upon the plains.

James creek, a still smaller stream, takes its rise between the St. Vrain and Left Hand creek, and makes a junction with the latter stream before it emerges from the foothills. Neither Left Hand creek nor James creek has as good natural water supply as the St. Vrain, their sources, respectively, not being so far up the mountain slope; and as a consequence the natural water supply of Left Hand creek is not sufficient to irrigate the agricultural lands lying along its borders upon the plains.

Early in the '60's certain settlers upon the plains, along the valley of Left Hand creek, made appropriations of water from said stream for the irrigation of the lands occupied by them respectively; but as there was not enough water in the natural stream to supply their wants, they undertook to increase the supply by artificial means. At a certain point in the mountains, James creek and the south fork of the St. Vrain are but a short distance apart. Taking advantage of this proximity of the two streams, a channel or ditch was cut through the narrow strip of land separating them. Thus water from the St. Vrain was carried into James creek, thence down the channel of the James to Left Hand creek, thence down Left Hand creek and out upon the plains to supply the settlers with water for irrigation.

The artificial channel thus uniting the St. Vrain with James creek was first constructed in 1863, and since

that time said channel, including the natural channels of the James and the Left Hand below the junction, has been called the Left Hand ditch. This will not appear so strange when it is understood that the volume of water following in the channel of Left Hand ditch was more than doubled by the original construction of the artificial channel, and that by an enlargement thereof in 1870 the stream was increased to about ten times its original size."

Oppenlander v. Left Hand Ditch Co., 18 Colo. 142, 143-4; 31 Pac. 854.

The Court again affirms its decision in *Coffin v. Left Hand D. Co.*, in the following language:

"The right to divert and convey the water of a natural stream across an intervening 'divide' to be used for the irrigation of lands in the valley of another natural stream, and for that purpose to utilize the channel of the second stream as a ditch to convey and distribute the water diverted from the first stream, has been recognized by this court. The diversion from the St. Vrain to the James and Left Hand creeks, as above stated, was upheld in Coffin v. Left Hand Ditch Co., 6 Colo. 449." Ib. 144.

Justice Elliott distinguishes the common law riparian rights from the Colorado law of appropriation, as follows:

"At common law the riparian owner is vested with certain rights in the water of a natural stream flowing through his land, and such rights pass by a conveyance of the land to his grantee, unless specially reserved. It is seriously claimed that this familiar principle of the common law in reference to natural streams applies also to artificial streams designed for purposes of irrigation.

Let us see what legal basis there is for such a claim. Upon examination we find few points of analogy and many points of difference between water rights at common law and water rights under the constitution of this state. For illustration, note the following:

At common law the water of a natural stream is an incident of the soil through which it flows; under the constitution the unappropriated water of every natural stream is the property of the public. At common law the riparian owner is, for certain purposes, entitled to the exclusive use of the water *as it flows through his land*; under the constitution the use of the water is

dedicated to the people of the state subject to appropriation. *The riparian owner's right to the use of water does not depend upon user and is not forfeited by non-user; the appropriator has no superior right or privilege in respect to the use of water on the ground that he is a riparian owner; his right of use depends solely upon appropriation and user; and he may forfeit such right by abandonment or by nonuser for such length of time as that abandonment may be implied.* A riparian proprietor owning both sides of a running stream may divert the water therefrom, provided he returns the same to the natural stream before it leaves his own land so that it may reach the riparian proprietor below without material diminution in quantity, quality or force; *the appropriator, though he may not own the land on either bank of a running stream, may divert the water therefrom, and carry the same whithersoever necessity may require for beneficial use, without returning it or any of it to the natural stream in any manner.*

The appropriator may, under certain circumstances, change the point of diversion as well as the place of application of the water; *he has a property right in the water, lawfully diverted to beneficial use, and may dispose of the same separate and apart from the land in connection with which the right ripened to anyone who will continue such use without injury to the rights of others.*

Thus it appears that the constitution has, to a large extent, obliterated the common law doctrine of riparian rights and substituted in lieu thereof the doctrine of appropriation. *Sieher v. Frink*, 7 Colo. 148; *Fuller v. The Swan River Mining Co.*, 12 Colo. 12; *Strickler v. Colo. Springs*, 16 Colo. 61; *Combs v. Agricultural Ditch Co.*, 17 Colo. 146. See, also, opinions in *Farmers' High Line Co. v. Southworth*, 13 Colo. 111, and cases there cited."

Subsequent to the foregoing opinion, many inter-watershed diversions were made in Colorado which have since been used to bring large portions of its theretofore arid lands into a state of high productivity. These diversions were described by Professor Carpenter, whose testimony appears in another portion of this brief.

No further question of the legal right of the appropriator to divert the water of any Colorado stream "whithersoever necessity may require for beneficial use, without returning it or any part of it to the natural stream in any manner," seems to have been presented to the Colorado courts until the year 1908.

when it was again settled in accord with the former views of the court as above expressed. Justice Gabbert says:

"The contention of counsel for defendants that water cannot be diverted from a stream for domestic use * * * by one not a riparian owner is not tenable. *The right to water appropriated for domestic purposes does not depend upon the locus of its use for those purposes.* Coffin v. Left Hand Ditch Co., 6 Colo., 444."

Town of Sterling vs. Pawnee D. & E. Co., 42 Colo., 421, 427.

The above decisions announce the established law of Colorado, frequently confirmed in the many opinions of her courts as well as by the many statutes enacted for settling the rights of appropriators within her borders and for policing and administration of diversions from her streams. The general doctrine there announced does not seem to have been again questioned until 1908, when certain land owners sought to claim a preferred right to the use of the stream by virtue of the fact that their lands were riparian to South Clear Creek. Justice Campbell thus disposed of the contention:

"We are entirely satisfied that the sole question argued and submitted to the trial court by counsel on both sides, was whether the common-law doctrine of continuous flow, under the facts disclosed by this record, exists in Colorado. At this late day it would seem to us, as it evidently did to the trial court, idle to make such contention in this state. The matter has long ago been set at rest. The authorities relied upon by plaintiffs are those which sustain the so-called California doctrine, first clearly and definitely announced by the supreme court of California in *Lux v. Haggin*, 69 Cal. 255, in which, *inter alia*, it was held that the common law, as to riparian ownership, was not abolished by any law of that state, but still existed there, side by side with the doctrine of appropriation. The states whose courts accept, and those whose tribunals reject, the California doctrine, and adhere to the so-called Colorado rule, are enumerated, and the various decisions collated, in *Water Rights in the Western States*, by Weil, at sections 16 and 17. *The Supreme Court of the United States in several cases, has approved and indicated its satisfaction with the decisions of the state courts which hold that the common-law doctrine has been abolished, and has said that each state, without interference by the federal courts, may for itself, and as between rival individual*

claimants, determine which doctrine shall be therein enforced. Atchison v. Peterson, 20 Wall. 507; Basey v. Gallagher, 20 Wall. 670; U. S. v. Rio Grande, etc., Co., 174 U. S. 690; Clark v. Nash, 198 U. S. 361, 370; Kansas v. Colo., 206 U. S., 46-94.

The doctrine in this state that the common-law rule of continuous flow of natural streams is abolished, is so firmly established by our constitution, the statutes of the territory and the state, and by many decisions of this court, that we decline to reopen or reconsider it, however interesting discussion thereof might otherwise be, and notwithstanding its importance. Perhaps the leading case in this state is *Coffin v. Left Hand Ditch Co.*, 6 Colo. 443. Others to like effect are: *Thomas v. Guiraud*, 6 Colo. 530; *Crippen v. White et al.*, 28 Colo. 298. A recent case, *Willey v. Decker*, 11 Wyo. 496, is in harmony with the Colorado doctrine, and therein Potter, Justice, in an able and exhaustive opinion, reviews the important cases from the various states and territories."

Sternberger vs. Seaton Co., 45 Colo., 401, 403-4.

The Federal Courts for the District of Colorado and the Circuit Court of Appeals have uniformly upheld the general doctrine announced in the opinion of Justice Helms in the case of *Coffin vs. Left Hand Ditch Co.*, *supra*, and the other Colorado decisions above quoted.

To avoid unnecessary repetition, we will quote at length from the opinion in those cases decided by the United States Courts in a later portion of this brief, wherein we discuss the decision of Justice Hallett in the case of *Hoge vs. Eaton*, 135 Fed., 411; *Snyder vs. Gold Dredging Co.* (Circuit Court of Appeals), 181 Fed., 62; *Cascade Town Co. vs. Empire W. & P. Co.* (Circuit Court D. Colo.), 181 Fed., 1011, and *Empire W. & P. Co. vs. Cascade Town Co.*, 205 Fed., 123.

A very interesting opinion by Judge Riner of Cheyenne, Wyoming, while sitting for the United States Circuit Court for the District of Colorado, was entered July 14, 1898, in a case involving the question whether the doctrine of riparian rights or the doctrine of appropriation prevails upon the Sangre de Cristo Mexican Land Grant, including within its boundaries the entire watershed of the Culebra River in Colorado. We fail to find the case reported in other than "I Legal Adviser," a publication of the Mills Publishing Company of Denver, and will therefore quote more at length than were the opinion to be found in the Federal Reporter:

"The demurrer presents the question whether the plaintiff can claim the right to use the water of the Culebra River as riparian proprietor, the river having its source and flowing its entire length through the land of the plaintiff. There is no allegation in the bill that the plaintiff has ever applied any of this water to a beneficial use, and no claim is made based upon its right as a prior appropriator. Its claim is made upon the sole ground that the stream has its source and flows its entire length through the lands of the plaintiff, and that the grant, the treaty and the act of congress secure to it the rights of a riparian owner.

Without discussing the question at length, I am inclined to the view that the riparian rights of such a riparian proprietor do not differ in any respect from those held by any other riparian proprietor who derives his title immediately, or mediately, from the United States, and that the *power to prescribe the rules which define and regulate the water rights of private riparian proprietors upon unnavigable streams belongs exclusively to the legislature of the state.*

Colorado was admitted into the Union upon an equal footing with the original states. Whatever the limitation upon her powers as a government may have been, while in a territorial condition, it ceased to have any operative force, except as voluntarily adopted by her after she became a state of the Union. On her admission she at once became entitled to and possessed of all the rights of dominion and sovereignty which belonged to the original states.

The stipulations of the treaty with Mexico referred to, operated upon and protected the titles of those private proprietors who held tracts of land within the territory ceded to the United States under grants from the Mexican government. These stipulations simply provide that the actual and bona fide grantees from the Mexican government shall continue to be the owners of their respective lands, although the territory has passed into the domain of the United States, and that their right of ownership shall be respected by this government. The legislation of congress operated solely upon the titles by declaring, establishing and confirming the private ownership of the grantees as derived from the Mexican government.

The treaty with Mexico, while it secured to private owners the title and ownership of the tracts of land

which had been granted them by Mexico, did not attempt to provide that this ownership should be governed by rules of law different from those which govern and control all private ownership of lands within the territorial jurisdiction of the United States or of any particular state. And the source of the plaintiff's title can, I think, make no difference as to the rights of property which accompany and flow from its ownership.

The constitution of the State of Colorado provides that the water of every natural stream not heretofore appropriated within the State of Colorado, is hereby declared to be the property of the public and the same is dedicated to the use of the people of the state subject to appropriation as hereinafter provided. It further provides that the right to divert unappropriated waters of any natural stream for beneficial uses shall never be denied, and that priority of appropriation shall give the better right as between those using the water for the same purpose (Art. 16, §§ 5-6).

It was early held in Colorado that the common-law doctrine as to the riparian rights by which the riparian proprietor is entitled to the flow of water in its natural channel upon and over his lands, whether he makes any beneficial use of it or not, is inapplicable to Colorado. (Coffin vs. Left Hand Ditch Company, 6 Colo., 447). This doctrine is sustained in most, if not all, of the states (except California) within what is known as the arid region.

The common-law doctrine relating to the rights of a riparian proprietor in the water of a natural stream, and the use thereof, is unsuited to our requirements and necessities and never did obtain in this region of country. A different principle, viz., that the right to use water for beneficial purposes depends upon a prior appropriation, is much better adapted to the material conditions existing in this and adjoining states.

The Supreme Court of Wyoming in the case of Moyer vs. Preston (44 Pac. Rep., 847), after speaking approvingly for the doctrine announced in the case of Coffin vs. The Ditch Company, says:

‘We esteem it unnecessary, if indeed it would not be superfluous, at this late day, to enter into any elaborate discussion of the reasons which gave birth to this doctrine. It is the natural outgrowth of the conditions existing in this section of the country. The climate is dry. The soil is arid, and largely unproductive in the

absence of irrigation, but, when water is applied by that means it becomes capable of successful cultivation. The benefits accruing to land upon the banks of a stream without any physical application of the water to the land are few; and while the land contiguous to water, and so favorably located as to naturally derive any sort of advantage therefrom, is comparatively small in area, the remainder, which comprises by far the greater proportion of our lands otherwise susceptible of cultivation, must forever remain in their wild and unproductive condition, unless they are reclaimed by irrigation. Irrigation and such reclamation cannot be accomplished with any degree of success or permanency without the right to divert and appropriate water of natural streams for that purpose, and a security accorded to that right. Thus the imperative and growing necessities of our conditions in this respect alone, to say nothing of the other beneficial uses, also important, to which water has been and may be applied, have compelled the recognition, rather than the adoption, of the law of prior appropriation.'

The Supreme Court of the United States in the case of *Broder vs. The Water Company* (101 U. S., 274, 276 [1879]), said:

'It is the established doctrine of the court that rights of miners, who had taken possession of mines, and worked and developed them, and the rights of persons who had constructed canals and ditches to be used in mining operations and for purposes of agricultural irrigation in the region where such artificial use of the water was an absolute necessity, are rights which the government had by its conduct recognized and encouraged and was bound to protect before the passage of the act of 1866. We are of the opinion that the section of the act which we have quoted was rather a voluntary recognition of a pre-existing right of possession constituting a valid claim to its continued use than the establishment of a new one.'

The Supreme Court of this State, in the case of *Coffin vs. The Ditch Company*, *supra*, held to the doctrine that it has always been the duty of the state and national governments to protect the right of water in this country by priority of appropriation, and proceeds to say that the right itself and the obligation to protect it existed prior to legislation on the subject of irrigation. *That the state has the power to regulate the use of water*

within its boundaries I have no doubt. And to the legislature of the state the authority is most properly confided, to authorize the use of water and to impose such regulations and limitations upon its use as will best reconcile and accommodate the interests of all concerned.

Ample provision is made by the laws of the State of Colorado for the determination and protection of the rights of its citizens who use the waters of the state by providing a tribunal wherein the rights of all parties interested may be determined according to the priority of their application thereof to a beneficial use. The irrigation of arid lands is a public purpose, and the water thus used is put to a public use; and a statute providing for such irrigation is a valid exercise of legislative power. Under the proceedings provided by the legislature of Colorado, due process of law is furnished and equal protection of the law given. These statutes provide for a hearing, upon notice to the parties interested, before a tribunal created for the purpose of determining whether the parties have complied with the statutory provisions by appropriating the water, that is to say, by applying it to a beneficial use. In all respects these statutes furnish due process of law. (14th Amend., § 1.)

There being no allegation in the case that the plaintiff has made an appropriation of the water of this stream, or any portion of it, by applying it to a beneficial use, and that such appropriation was prior in time to the appropriation of the defendants, it is not entitled to the relief prayed for.

As this disposes of the case it is unnecessary to discuss other questions suggested in the argument. The demurrer will be sustained and the bill dismissed."

United States Freehold Land & Emigration Co. vs. Gallegos et al. (No 2545 U. S. Cir. Ct. D. of Colo.) ; 1 Legal Adviser, 412, 415-18.

The above case was reversed by the Circuit Court of Appeals (U. S. Freehold L. & E. Co. vs. Gallegos, 89 Fed., 769, 771) on a technical ground, but in the opinion the court refrains from passing upon the questions decided by Judge Riner in the following language:

"The question is of serious import and the effects of its decision must be grave and far-reaching. * * * Accordingly, we deem it our duty to refrain from consid-

ering or expressing our opinion upon it, and nothing that is said in this opinion is intended to express or intimate our views concerning it."

The correctness of Judge Riner's conclusions, upon which the Circuit Court of Appeals refused to pass, is supported by ample authority.

Boquillas Cattle Co. vs. Curtis, 213 U. S., 339, 342.

Kansas vs. Colorado, 206 U. S., 46.

Gutierrez vs. Albuquerque Land & Cattle Co., 188 U. S., 545, 550.

United States vs. Rio Grande Irr. Co., 174 U. S., 690.

Kinney on Irrigation (2 Ed.), Sec. 583, pages 998-1003 and cases cited.

While further citation of authorities might be profitable and interesting, the foregoing sufficiently announce the doctrine of appropriation as it obtains in Colorado including the right of the appropriator to *convey* the water from any stream and use it "whithersoever necessity may require" including lands upon foreign watersheds "without returning it or any of it to the natural stream."

(2) Wyoming Constitution, Statutes and Decisions.

Wyoming has adopted the Colorado doctrine of appropriation in its entirety, save for some more recent changes of procedure for initiation and adjudication of the various water rights. This is admitted by counsel for plaintiff (Brief, pages 85-7).

The Constitution of Wyoming, Article VIII, Sections 1 and 3, provides:

"Section 1. The water of all natural streams, lakes or other collections of still water, within the boundaries of the state, are hereby declared to be the property of the state."

"Section 3. *Priority of appropriation for beneficial uses shall give the better right.* No appropriation shall be denied except when such denial is demanded by the public interests."

The statutes of Wyoming more explicitly declare the doctrine of appropriation and provide a code of procedure for carrying it into effect. We will refer only to certain sections of

immediate interest, which were read into the record, pages 3910-18, but were not extended in the abstract. They are in part as follows:

"A water right is a right to use the water of the state, when such use has been acquired by the beneficial application of water under the laws of the state relating thereto, and in conformity with the rules and regulations dependent thereon. *Beneficial use shall be the basis, the measure and limit of the right to use water at all times*, not exceeding in any case, the statutory limit of volume. Water being always the property of the state, rights to its use shall attach to the land for irrigation, or to such other purpose or object for which acquired in accordance with the beneficial use made and for which the right receives public recognition, under the law and the administration provided thereby. Water rights cannot be detached from the lands, place or purpose for which they are acquired, without loss of priority."

Laws 1909, Chapter 68, Section 1.

Wyoming Compiled Statutes, 1910, Sec. 724, p. 247.

The above section was evidently enacted subsequent to the decision in the case of Johnson vs. Irrigation Co., 13 Wyo., 208, which we shall hereinafter consider.

"Any person, association or corporation hereafter intending to acquire the right to the beneficial use of the public water of the state of Wyoming shall, before commencing the construction, enlargement or extension of any ditch, canal or other distributing works, or performing any work in connection with said construction, or proposed appropriation, make an application to the state engineer for a permit to make such appropriation.
* * *

Laws Wyoming, 1895, Ch. 45, Sec. 1.

Wyoming Compiled Statutes, 1910, Section 727.

"All applications which shall comply with the provisions of this chapter, and with the regulations of the engineer's office, shall be recorded in a suitable book kept for that purpose; and it shall be the duty of the state engineer to approve all applications made in proper form, which contemplate the application of the water to a beneficial use and where the proposed use does not tend to impair the value of existing rights, or be otherwise detrimental to the public welfare. But where there is no unappropriated water in the proposed source of supply, or where the proposed use conflicts with existing

rights, or threatens to prove detrimental to the public interest, it shall be the duty of the state engineer to reject such application and refuse to issue the permit asked for."

Laws 1895, Chapter 45, Sec. 1.

Wyoming Compiled Statutes (1910), Sec. 729.

"The refusal or approval of an application shall be endorsed thereon and a record made of such endorsement in the state engineer's office. The application so endorsed shall be returned to the applicant. If approved, the applicant shall be authorized on receipt thereof, to proceed with the construction of the necessary works, and to take all steps required to apply the water to a beneficial use, and to perfect the proposed appropriation. If the application is refused, the applicant shall take no steps toward the prosecution of the proposed work, or the diversion and use of the public water so long as such refusal shall continue in force."

Wyoming Compiled Statutes 1910, Sec. 730.

"Upon it being made to appear to the satisfaction of the Board of Control, that any appropriation has been perfected in accordance with such application, and the endorsement thereof of the state engineer, it shall be the duty of the Board of Control * * * to send to the county clerk a certificate of the same character as that described in Section 778, which certificate shall be recorded in the office of the county clerk as recorded in said section."

Revised Statutes Wyoming, 1899, Sec. 928.

Wyoming Compiled Statutes, 1910, Sec. 738.

"The priority of such appropriation shall date from the filing of such application in the state engineer's office."

Revised Statutes 1899, Sec. 929.

Wyoming Compiled Statutes, 1910, Sec. 739.

"Rights to the use of water shall be limited and restricted to so much thereof as may be necessarily used for irrigation or other beneficial purposes as aforesaid; irrespective of the carrying capacity of the ditch, and all the balance of the water not so appropriated shall be allowed to run in the natural stream from which such ditch draws its supply of water, and shall not be considered as having been appropriated thereby; and in case the owner or owners of any such ditch, canal or reservoir shall fail to use the water therefrom for irrigation

or other beneficial purposes during any five successive years, they shall be considered as having abandoned the same, and shall forfeit all water rights, easements and privileges, appurtenant thereto, and water formerly appropriated by them may be again appropriated for irrigation and other beneficial purposes, the same as if such ditch, canal or reservoir had never been constructed; neither shall the owner or owners of such ditch, canal or reservoir have any right to receive from others any royalty for the use of water carried thereby, but every such owner or owners having a surplus of water and furnishing the same to others from any ditch, canal or reservoir as herein provided, shall be considered common carriers and shall be subjected to the same laws that govern common carriers."

Revised Statutes 1899, Sec. 895.

Wyoming Compiled Statutes, 1910, Sec. 741.

"The final orders or decrees of the State Board of Control, in proceedings provided by law for the adjudication and determination of rights to the use of public waters of the state, *shall be conclusive* as to all prior appropriations, and the rights of all existing claimants upon the stream or other body of water lawfully embraced in the adjudication, subject, however, to the provisions of law for re-hearings in such proceedings and for the re-opening of the orders and decrees therein and for appeals from such orders or decrees."

Laws 1901, Chapter 67, Sec. 1.

Wyoming Compiled Statutes, 1910, Sec. 793.

The comparatively few decisions which have been announced by the Supreme Court of Wyoming, are, nevertheless, voluminous and exhaustive. The principles of these decisions uphold and adopt the strict doctrine of appropriation as announced in Colorado.

Moyer vs. Preston, 6 Wyo., 308.

Farm Investment Co. vs. Carpenter, 9 Wyo., 110;
61 Pac., 258.

Willey vs. Decker, 11 Wyo., 498; 73 Pac., 210.

Johnston vs. Irrigation Co., 13 Wyo., 228; 79
Pac. 22.

We have already quoted at length from Moyer vs. Preston (6 Wyo., 308), also from Farm Investment Co. vs. Carpenter (9 Wyo., 110).

The following excerpts from the opinions may be of additional value:

In discussing Section 1, Article VIII of the Constitution, which declared that the "waters of all natural streams * * * within the boundaries of the State are hereby declared to be the property of the State," Chief Justice Potter construes the language as synonymous with the declaration of the Colorado Constitution declaring that the unappropriated waters of the stream are the property of the public. He says:

"The effect of such a declaration has been determined by the courts of Colorado, whose constitution declares that the unappropriated waters of the streams within the State are the property of the public. In the case of *Wheeler v. Northern Colo. I. Co.*, 10 Colo., 582, Mr. Justice Helm, in delivering the opinion of the court, said, 'Our constitution dedicates all unappropriated water in the natural streams of the State to the use of the people, the ownership thereof being vested in the public. We shall presently see that after appropriation, the title to this water, save perhaps as to the limited quantity that may be actually flowing in the consumer's ditch or lateral, remains in the general public, while the paramount right to its use, unless forfeited, continues in the appropriator.'

Again, in *Fort Morgan L. & C. Co. v. So. Platte Ditch Co.*, 18 Colo., 1, in the opinion delivered by Mr. Chief Justice Hayt, it is said, 'Under our constitution, the water of every natural stream in this State is deemed to be the property of the public. Private ownership of water in the natural streams is not recognized. The right to divert water therefrom and apply the same to beneficial uses is, however, expressly guaranteed. By such diversion and use a priority of right to the use of water may be acquired.'

There is to be observed no appreciable distinction, *under the doctrine of prior appropriation, between a declaration that the water is the property of the public, and that it is the property of the State.*

It is said in *McCready v. Virginia*, 94 U. S., 391, in discussing the subject of tide waters: 'In like manner the States own the tide waters themselves. * * * For this purpose, the State represents its people, and the ownership is that of the people in their united sovereignty.' See also *Martin v. Waddell*, 16 Pet., 410; *Gould on Waters*, Sec. 32; *Kinney on Irrigation*, Secs. 51, 53; *Bell v. Gough*, 23 N. J. L., 624. 'The Sovereign is trustee for the public.' 3 Kent's Com., 427; *Miller v. Mendenhall* (Minn.), 8 L. R. A., 89.

The ownership of the State is for the benefit of the public or the people. By either phrase, 'property of the

public' or 'property of the State,' *the State, as representative of the public or the people, is vested with jurisdiction and control in its sovereign capacity.*"

The court then continues with a lengthy discussion of the right of the state to administer the distribution of the waters within its borders by adjudication and fixing of priorities by the Board of Control and by subsequent enforcement of their "certificates" or decrees by the water officials.

Farm Investment Co. vs. Carpenter, 9 Wyo., 110, 138-9.

While considering the case of Coffin vs. Left Hand D. Co., *supra*, Justice Potter said :

"It was held that it did not prevent the diversion of the water of one stream to irrigate lands lying adjacent to or in the locality of another. * * * We are perfectly content, however, therewith. It is in accord with our own views."

Moyer vs. Preston, 6 Wyo., 308, 321.

In Willey vs. Decker, Justice Potter makes an exhaustive review of the leading authorities of the arid west relating to the appropriation of water, including those of Colorado, and adopts the arid region or Colorado doctrine as the law of Wyoming. While quotation of the entire opinion would be very profitable, we shall, nevertheless, content ourselves with a few excerpts therefrom. After an exhaustive and favorable review of the decisions of the leading authorities in the arid west, including the case of Coffin vs. Left Hand Ditch Co., 6 Colo., 443, as well as of the decisions of the courts in the states of Montana and Nebraska where the common law doctrine in large measure prevails, he says :

"From our somewhat extended review of the origin of the doctrine of prior appropriation of the waters of natural streams, it is quite clear that neither the custom or necessity that gave birth to the doctrine was confined to riparian lands. With respect to irrigation, the same necessity existed in the case of all lands, whether bordering on a stream or otherwise. Indeed, if there was any difference, the necessity was greater in the case of non-riparian lands. They constituted, and continue to constitute, the far greater body of lands whose cultivation is desirable, and upon the productiveness of which the welfare of the country in a large measure depends. And it is an undoubted fact that from an early date, if not from the very beginning, the custom of the settlers in

the diversion of running water for purposes of irrigation *disregarded the location of the lands*, except in so far as irrigation was at first confined to lands upon which water could be the more easily and inexpensively conducted.

It is hardly necessary, therefore, to cite authority upon the proposition that, *under the doctrine of prior appropriation, it is not now and never has been essential to a water right, that the appropriator should apply the water upon land commonly or legally known as riparian.*"

* * * * *

"The act of Congress of 1866 granting rights of way for ditches over the public lands recognized a custom to conduct water to lands other than those situated on the margin of streams. Mr. Kinney asserts that a *valid appropriation may be made for the irrigation of lands, or for any other beneficial use, not situated upon or near the stream.* (Kinney on Irr., 156.) *And we think this proposition is conceded in every jurisdiction where the doctrine is to any extent enforced.*

In the Colorado case of Coffin v. Left Hand Ditch Co., *supra*, the appellee claimed to have appropriated certain water from St. Vrain Creek, through its diversion by means of a ditch which conducted the water to the James Creek, thence along the bed of the same to Left Hand Creek, where it was again diverted by lateral ditches, and used to irrigate lands adjacent to the last named stream. It was contended that such appropriation was unlawful. But the court upheld it, and said: "In the absence of legislation to the contrary, we think that the right of water acquired by priority of appropriation thereof is not in any way dependent upon the *locus* of its application to the beneficial use designed. And the disastrous consequences of an adoption of the rule contended for forbid our giving such a construction to the statutes as will concede the same, if they will properly bear a more reasonable and equitable one. The doctrine of priority of right by priority of appropriation for agriculture is evoked; as we have seen, by the imperative necessity for artificial irrigation of the soil. And it would be an ungenerous and inequitable rule that would deprive one of its benefit simply because he has, by large expenditure of time and money carried the water from one stream over an intervening watershed and cultivated land in the valley of another. It might be utterly impossible, owing to the topography of the country, to get water upon his farm from the adjacent stream; or, if possible, it might be impracticable on account of the distance from the point where the diver-

sion must take place and the attendant expense; or the quantity of water in such stream might be entirely insufficient to support his wants.'

The Supreme Court of the State of Washington say that, 'The right of appropriation, as defined by the best authorities, is not controlled by the location of the stream with reference to the premises which are irrigated.' (*Offield vs. Ish*, 21 Wash., 277; 57 Pac., 809. See also *Long on Irr.*, 50; *Thomas v. Guiraud*, 6 Colo., 530; *Hammond v. Rose*, 11 Colo., 524; 19 Pac., 466; *Oppenlander v. Left Hand Ditch Co.*, 18 Colo., 142; 31 Pac., 854.) The court say in the case last cited: 'The appropriator, though he may not own the land on either bank of a running stream, may divert the water therefrom, and carry the same whithersoever necessity may require for beneficial use, without returning it, or any of it, to the natural stream, in any manner.'

Wiley vs. Decker, 11 Wyo., 496, 529-31.

While the conclusions of the court to the effect that the Wyoming Courts have the right to decree and settle rights to the use of water in Montana is not in accord with the better authority as announced in *Kansas vs. Colorado*, *supra*; *Lamson vs. Vailes*, 27 Colo., 201; *Stockman vs. Leddy*, 55 Colo., 24; *Turley vs. Furman*, 16 N. M., 253; and particularly to the doctrines announced by the same learned justice in *Grover Irr. Co. vs. Lovella Ditch Co.*, 21 Wyo., 204, the court nevertheless adopts, without question, the general law of appropriation, including the right to divert water from one stream for application and use upon lands in no sense riparian and situate at a remote distance from the stream and from which no return of water can be expected as required by the common law doctrine.

The principles announced in the above case of *Wiley vs. Decker* seem to have been adopted without further question, and we find no subsequent reported cases dealing with this phase of the appropriation doctrine. It is interesting, however, to note that these appropriations have been universally recognized, approved and decreed by the Board of Control, possessing full power to hear, determine, grant and adjudicate all water rights in that state.

The judicial determinations of the Board of Control are as conclusive in their nature as are those of the District Courts in Colorado, and are to be taken as equivalent to the financial and conclusive decree of a judicial tribunal, save for rights of appeal provided by statute.

Constitution of Wyoming, Art. VIII, Sec. 2.

Wyoming Compiled Statutes, 1910, Secs. 778 and 793.

Farm Inv. Co. vs. Carpenter, 9 Wyo., 110; 61 Pac., 258.

Parshall vs. Cowper, 22 Wyo., 385.

Section 2 of Article VIII of the Constitution provides:

"There shall be constituted a Board of Control, to be composed of the state engineer and superintendents of water divisions; which shall, under such regulations as may be prescribed by law, have supervision of the waters of the state and of their appropriation, distribution and diversion and of the various officers connected therewith. Its decisions to be subject to review by the courts of the state."

Section 778 of the Wyoming Compiled Statutes, 1910, provides in part as follows:

"As soon as practical after the determination of the priorities of appropriation of the use of waters in any stream, it shall be the duty of the secretary to issue to each person, association or corporation, represented in such determination, a certificate to be signed by the state engineer as president of the Board of Control, and attested under seal by the secretary of said board, setting forth the name and postoffice address of the appropriator; *the priority date and number of each such appropriation; the amount of water appropriated.* * * *"

Section 793, *supra*, provides that the final orders and decrees of the State Board of Control shall be conclusive as to all prior appropriations and the rights of all existing claimants upon the stream.

In the case of Farm Investment Co. vs. Carpenter, *supra*, the Supreme Court defined the powers of the Board of Control as quasi-judicial in their nature. The same court, in a decision announced in April, 1914, says:

"In determining the rights and priorities of the several claimants the Board of Control was required to ascertain and determine the carrying capacity of ditches and the amount of land then irrigated or susceptible of irrigation by means of each ditch and the amount of water appropriated to each ditch or canal. * * * Neither the State Engineer nor his subordinates had the right to change, modify or annul that *adjudication* or to prevent plaintiff from the use of that amount of water,

except to prevent waste. The duty of the officers authorized and required to distribute the waters of a stream is to divide the water according to the rights of the appropriators as determined by the Board of Control. That is their authority for the distribution, and without it they cannot lawfully make such distribution. * * *

The adjudication by the Board of Control as to the quantity of water to which an appropriator is entitled is as *conclusive upon the water distributors as its determination of priorities*, with the exception that he may regulate a headgate so as to prevent waste. For the purpose of governing those officers in the discharge of their duties in dividing waters between appropriators, *the adjudication of the Board of Control is as conclusive as though an appeal had been taken from its decision and a decree entered by the court.*"

Parshall vs. Cowper, 22 Wyo., 385, 393-4.

The granting of permits by the state engineer has the same quasi-judicial effect. By Section 727, Wyoming Compiled Statutes, 1910, above quoted, all parties intending to commence the construction of any diversion system must first make application for permit so to do. By Section 729, it is the duty of the State Engineer to approve these applications, if in due form, unless he shall, in his quasi-judicial capacity, find that there is no unappropriated water in the proposed source of supply or that the proposed use conflicts with existing rights or threatens to prove detrimental to public interest, in either of which latter instances it is his duty to refuse to grant the permit, whereupon, the appropriator is precluded from commencing the construction of his enterprise. If the permit is granted and the works are completed, the appropriator has the right to make diversion in accordance with the terms and conditions of the permit, and by Section 738 of the statutes, a proper showing to the satisfaction of the Board of Control that the appropriation has been perfected in accordance with the application, a certificate of final decree of the same character as that described in Section 778 shall be awarded the appropriator.

The State Engineer's permit and its judicial effect were ably construed by Chief Justice Potter in the case of Whalon vs. North Platte Canal etc. Co. A clear understanding of the legal effect of this decision can best be obtained by reading the opinion. He said in part:

"Under our present statutory system, the inceptive point or date of a water right is not the commencement of construction, or even the commencement of survey. It is the filing of the application for a permit. Survey

must, of course, be made, and it generally, no doubt, antedates the application. There must be construction, and if there has been none an abandonment may be the result. Formerly any person could, without permission of any one, inaugurate and complete an appropriation of water. And many appropriations now existing, made before the adoption of the present statutes, have been established, and others will be established, in respect to priorities, upon evidence as to time of commencing work or making surveys.

Since the enactment into our laws of the system now in force, a water right is not inaugurated by constructing a ditch. The law provides that before beginning construction an application for permit shall be filed; and upon its approval the applicant is authorized to proceed with construction. * * * A ditch that is built without authority, the building of which confers no right upon the owner to divert water, is not such a ditch as the statute mentions."

And further on in the same opinion, the court says:

"The water to be appropriated by defendant under the permit to their grantors has been duly conveyed to the defendant. The title to the water right has duly passed to it from the original applicants or appropriators.

Plaintiff can acquire an interest only in the use of unappropriated waters. The water remains public, but the right to its use appropriated under the permit to defendant's grantors, until the same may be abandoned or forfeited, is no longer in the State to grant."

Whalon vs. North Platte Canal etc. Co., 11 Wyo., 313, 344, 351; 71 Pac., 995.

The record shows, without contradiction, that a considerable portion of the most valuable agricultural lands in Wyoming are now and for long years have been irrigated with waters obtained by means of inter-watershed diversions, and that these diversions have been approved, adjudicated and decreed by the Board of Control and District Courts of the State of Wyoming. This particularly applies to the Sheridan and Wheatland districts.

It also shows that the State Engineer has granted permits authorizing the construction of many new systems for the purpose of diverting water from one stream for application upon lands in a foreign drainage area, even to the extent of authorizing a small inter-watershed diversion from Cache la Poudre waters for irrigation of lands lying in the foreign drainage of the Laramie River.

These inter-watershed diversions have already been described in detail in a former portion of this brief and repetition is here unnecessary (see subdivision "Wyoming" under general title "Inter-watershed Diversions").

There are doubtless other reported cases in the same degree bearing upon the general doctrine of appropriation and inter-watershed diversions, as adopted, considered and applied in Wyoming, but we believe the foregoing are conclusive of the fact that the Colorado system and the arid region doctrine of appropriation, in all its fundamental principles, prevails in Wyoming; that the doctrine of riparian rights is there entirely abrogated and the new doctrine of appropriation adopted as better suited to the new conditions and necessities of the country, and that in abrogating the common-law doctrine, the inhibition against inter-watershed diversions on account of use of water on non-riparian lands from which such water cannot be returned to the stream of origin, has been likewise abolished and the rule announced in Colorado, that the appropriator may divert the water from any stream "and carry the same whithersoever necessity may require, for beneficial use, without returning it or any of it to the natural stream" obtains with like effect in Wyoming.

(3) Other Decisions and Authorities.

The United States has approved and ratified the arid region doctrine of appropriation, as distinguished from the common-law doctrine of riparian rights, by the following Acts of Congress:

"Whenever, by priority of possession, rights to the use of water for mining, agricultural, manufacturing, or other purposes, have vested and accrued, and the same are recognized and acknowledged by the local customs, laws, and decisions of Courts, the possessors and owners of such vested rights shall be maintained and protected in the same; and the right of way for the construction of ditches and canals for the purposes herein specified is acknowledged and confirmed; but whenever any person, in the construction of any ditch or canal, injures or damages the possession of any settler on the public domain, the party committing such injury shall be liable to the party injured for such injury or damage."

Act of Congress, July 26, 1866.

7 Fed. Stats. Ann., 1905, p. 1090.

Rev. Stats. of U. S., 1878, sec. 2339.

14 Stat. L., 523.

"All patents granted, or pre-emptions or homesteads allowed, shall be subject to any vested and accrued water rights, or rights to ditches and reservoirs used in connection with such water rights, as may have been acquired under or recognized by the preceding section."

Act of Congress of July 9, 1870.

7 Fed. Stat. Ann., 1905, p. 1096.

U. S. Rev. Stats., 1878, sec. 2340.

16 Stat. L., 218.

"*Provided, however,* That the right to the use of water by the persons so conducting the same on or to any tract of desert land of six hundred and forty acres shall depend upon *bona fide* prior appropriation; and such right shall not exceed the amount of water actually appropriated and necessarily used for the purpose of irrigation and reclamation; and all surplus water over and above such actual appropriation and use, together with the water of all lakes, rivers and other sources of water supply upon the public lands and not navigable, shall remain and be held free for the appropriation and use of the public for irrigation, mining and manufacturing purposes subject to existing rights."

Act of Congress, March 3rd, 1877.

19 Stat. L., 377.

"That the right of way through the public lands and reservations of the United States is hereby granted to any canal or ditch company formed for the purpose of irrigation and duly organized under the laws of any State or Territory which shall have filed, or may hereafter file, with the Secretary of the Interior a copy of its articles of incorporation, and due proofs of its organization under the same, to the extent of the ground occupied by the water of the reservoir and of the canal and its laterals, and fifty feet on each side of the marginal limits thereof; also the right to take, from the public lands adjacent to the line of the canal or ditch, material, earth and stone necessary for the construction of such canal or ditch: *Provided,* That no such right of way shall be so located as to interfere with the proper occupation by the Government of any such reservation, and all maps of location shall be subject to the approval of the department of the Government having jurisdiction of such reservation, and the privilege herein granted shall not be construed to interfere with the control of water for irrigation and other purposes under authority of the respective States or Territories."

Act of Congress of March 3, 1891.
26 Stat. L., 1096, 1097.

"That nothing in this act shall be construed as affecting or intending to affect or to in any way interfere with the laws of any State or Territory relating to the control, appropriation, use, or distribution of water used in irrigation, or any vested right acquired thereunder, and the Secretary of the Interior, in carrying out the provisions of this act, shall proceed in conformity with such laws, and nothing herein shall in any way affect any right of any State or of the Federal Government or of any landowner, appropriator, or user of water in, to, or from any interstate stream or the waters thereof; *Provided*, That the right to the use of water acquired under the provisions of this act shall be appurtenant to the land irrigated, and beneficial use shall be the basis, the measure, and the limit of the right."

National Reclamation Act, July 17, 1902.
7 Fed. Stat. Ann., 1905, p. 1098.
32 Stat. L., 388.

These acts have been repeatedly construed by this court, and particular reference is made to them in the following cases:

Atchison vs. Peterson, 20 Wall., 507.
Jennison vs. Kirk, 98 U. S., 453, 456.
Broder vs. Natoma Water Co., 101 U. S., 274; 25 L. Ed., 790.
United States vs. Rio Grande Irr. Co., 174 U. S., 690, 705-6.
Gutierrez vs. Albuquerque Land & Irr. Co., 188 U. S., 545, 552-5.
Clark vs. Nash, 198 U. S., 361, 370.
Kansas vs. Colorado, 206 U. S., 46, 94; 51 L. Ed., 956.
Boquillas Land & Cattle Co. vs. Curtis, 213 U. S., 339, 344-5; 53 L. Ed., 822.

The construction placed upon them by this court has been universally adopted throughout the arid region, including Colorado and Wyoming.

Union Mill & Mining Co. vs. Dangberg, 81 Fed., 73, 95.
Snyder vs. Colorado Gold Dredging Co., 181 Fed., 62, 65; 104 C. C. A., 136.
Cascade Town Co. vs. Empire Water & Power Co., 181 Fed., 1011, 1014-15.

Empire Water & Power Co. vs. Cascade Town Co.,
205 Fed., 123, 127.

Coffin v. Left Hand Ditch Co., 6 Colo., 443, 447, 449.
Willey vs. Decker, 11 Wyo., 496, 519-22; 73 Pac.,
210.

In construing the above statutes, this court and the federal and state courts of the arid west have universally held that Congress has recognized and approved the adoption of the doctrine of appropriation and the rejection of the common law riparian doctrine by each of the states of the arid west in the exercise of its sovereign control of the waters of the streams *within its borders*.

Kinney on Irrigation (2 Ed.), V. 1, Chap. 32, pages
1027-97.

In Jennison vs. Kirk, Mr. Justice Field said:

"The first appropriator of water to be conveyed to such localities for mining or other beneficial uses, was recognized as having, to the extent of actual use, the better right.

The doctrines of the common law respecting the rights of riparian owners were not considered as applicable, or only in a very limited degree, to the conditions of the miners in the mountains. The waters of rivers and lakes were consequently carried *great distances* in ditches and flumes, constructed with vast labor and enormous expenditures of money, along the sides of mountains and through canons and ravines, to supply communities engaged in mining as well as for agriculturalists and ordinary consumption."

Jennison vs. Kirk, 98 U. S. (Otto.), 453, 458.

In Broder vs. Natoma Water Co., Mr. Justice Miller said:

"It is the established doctrine of the court that the rights of the miners, who had taken possession of mines and worked and developed them, and the rights of persons who had constructed canals and ditches to be used in mining operations *and for purposes of agricultural irrigation*, in the region where such artificial use of the water was an *absolute necessity*, are rights which the Government had by its conduct recognized and encouraged and was bound to protect before the passage of the Act of 1866. We are of opinion that the section of the act which we have quoted was rather a voluntary *recognition of a pre-existing right of possession*, constituting a valid

claim to its continued use than the establishment of a new one. This subject has so recently received our attention and the grounds on which this construction rests are so well set forth in the following cases, that they will be relied on without further argument: *Atchison v. Peterson*, 20 Wall., 507; *Basey v. Gallagher*, Id., 670; *Forbes vs. Gracey*, 94 U. S., 762; *Jennison v. Kirk*, 98 U. S., 453."

Broder vs. Natoma Water Co., 101 U. S., 274, 276.

In the case of *United States vs. Rio Grande Irr. Co.*, Mr. Justice Brewer, after affirming the construction of the act of 1866 in *Broder vs. Water Co.*, supra, thus construes the acts of 1877 and 1891:

"Obviously, by these acts, so far as they extended, Congress recognized and assented to the appropriation of water in *contravention* of the common-law rule as to continuous flow. * * * And in reference to all those cases of purely local interest, the obvious purpose of Congress was to give its assent, so far as the public lands were concerned, to any system, *although in contravention to the common-law rule*, which permitted the appropriation of those waters for legitimate industries."

After having quoted the definition of common-law riparian rights as given by Chancellor Kent (3 Kent Com., Sec. 439) he said:

"While this is undoubted, and the rule obtains in those States in the Union which have simply adopted the common-law, it is also true that *as to every stream within its dominion, a State may change its common-law rule and permit the appropriation of the flowing waters for such purposes as it deems wise.*"

U. S. vs. Rio Grande Irr. Co., 174 U. S., 690, 706, 702.

In *Gutierrez vs. Albuquerque Land Co.*, Mr. Justice White said:

"As stated in the opinion just referred to" (*U. S. vs. Rio Grande Irr. Co.*) "by the Act of July 26, 1866, * * * Congress recognized, as respects the public domain, 'so far as the United States are concerned, the validity of the local customs, law and decisions of courts in respect to the appropriation of water' by the Act of March 3, 1877 * * * the right to appropriate such an amount of water as might be necessarily used for the

purpose of irrigation and reclamation of desert land, part of the public domain, was granted, and it was further provided that 'all surplus water over and above such actual appropriation and use, together with the water of all lakes, rivers and other sources of water supply, upon the public lands and not navigable, shall remain and be held free, for the appropriation and use of the public for irrigation, mining and manufacturing purposes, subject to existing rights.'

That the purpose of Congress was to recognize as well the legislation of a territory as of a state with respect to the regulation of the use of public waters, is evidenced by the act of March 3, 1891 * * *. It may be observed that the purport of the previous acts is reflexively illustrated by the act of June 17, 1902." (Here quoting Section 8 of the National Reclamation Act, *supra*.)

Gutierrez vs. Albuquerque Land & Irr. Co., 188 U. S., 545, 553-4.

In *Kansas vs. Colorado*, Section 8 of the Reclamation Act of June 17, 1902, above quoted, was before the court upon petition of the United States as intervenor. It was there urged that the Reclamation Act superseded the state laws and gave national control of the streams to the United States. In concluding the discussion and in approving the above quoted language of Mr. Justice White in *Gutierrez vs. Albuquerque Land & Cattle Co.*, Mr. Justice Brewer said:

"We do not mean that its legislation can override state laws in respect to the general subject of reclamation. While arid lands are to be found, mainly if not only in the Western and newer States, yet the powers of the National Government within the limits of those States are the same (no greater and no less) than those within the limits of the original thirteen, and it would be strange if, in the absence of a definite grant of power, the National Government could enter the territory of the States along the Atlantic and legislate in respect to improving by irrigation or otherwise the lands within their borders.

* * * * *

But it is useless to pursue the inquiry further in this direction. It is enough for the purposes of this case that *each State has full jurisdiction* over the lands within its borders, including the beds of streams and other waters.

* * * * *

It may determine for itself whether the common law rule in respect to riparian rights or that doctrine which

obtains in the arid regions of the West of the appropriation of waters for the purposes of irrigation shall control. Congress cannot enforce either rule upon any State."

In another portion of the opinion, it is said:

"One cardinal rule, underlying all the relations of the States to each other, is that of equality of right. Each State stands on the same level with all the rest. It can impose its own legislation on no one of the others, and is bound to yield its own views to none."

Kansas vs. Colorado, 206 U. S., 46, 92, 94, 97.

The doctrine first announced in the case of *Coffin vs. Left Hand Ditch Co.*, 6 Colo., 443, that the common-law limitation against inter-watershed diversions had been abolished along with the rest of the riparian rules in the arid states, which was later approved and sanctioned in the case of *Willey vs. Decker*, 11 Wyo., 496, 529-31, is approved by Mr. Justice White in the following language:

"It is conceded on behalf of appellant, that, by the laws of Mexico in force when the Territory of New Mexico was ceded to the United States, the use of the waters of both navigable and unnavigable streams was not limited to riparian lands, but extended as well to lands which did not lie upon the banks of the rivers, and that such use was subject to be regulated and controlled by the public authorities."

Gutierrez vs. Albuquerque Land & Irr. Co., supra, 556.

This construction of the doctrine of appropriation was affirmed and approved by Mr. Justice Holmes in the following language:

"The right to use water is not confined to riparian proprietors. Gutierrez vs. Albuquerque Land & Irrigation Co., 188 U. S., 545, 556; *Coffin vs. Left Hand Ditch Co.*, 6 Colo., 443, 449, 450; *Willey vs. Decker*, 73 Pac. Rep., 210, 220.

Such a limitation would substitute accident for a rule based upon economic considerations, and an effort, adequate or not, to get the greatest use from all available land."

Boquillas Cattle Co. vs. Curtis, 213 U. S., 339, 347.

The doctrine that waters may be used on non-riparian lands, including those in foreign watersheds, under the rule of appro-

priation, as first announced in *Coffin vs. Left Hand Ditch Company*, is approved by Judge Hawley, of the Federal Court for the District of Nevada, who was first Chief Justice of the Supreme Court of that state, in a lengthy and exhaustive opinion wherein he likewise assigns the fundamental reasons which led to the abrogation of the common-law doctrine and the adoption of the rule of prior appropriation in the arid states and particularly in Nevada where the principles of prior appropriation had been accepted as applicable to the existing conditions of the soil and climate, in the cases of *Jones vs. Adams*, 19 Nev., 78; 6 Pac., 442; *Reduction Works vs. Stevenson*, 20 Nev., 269; 21 Pac., 317. The opinion embodies so complete a summary of the underlying principles of the law of appropriation that we take the liberty of quoting at considerable length.

"This change is the natural outgrowth of the conditions existing in this state. The climate is dry. The soil is arid. The land is unproductive, without irrigation. When water can be used thereon, it becomes capable of successful cultivation. There are but few streams of water. The benefits accruing to land along the banks of these streams by the mere flow of water in the channel is very slight. *The bottom lands that can be irrigated by a diversion of the water, so that it can be turned back into the stream, are of limited extent.* A large proportion of the area of land suitable for cultivation would have to remain in its wild and unproductive state, covered only by the natural growth of sagebrush and greasewood, unless the right to appropriate and divert the water of the streams *away* from the channel for the purpose of irrigating such lands is recognized and secured. The same conditions exist with reference to the necessity of the use of the water for mining, milling, mechanical, manufacturing, municipal, and other beneficial purposes.

These conditions and the growing wants and necessities of the people imperatively demanded that such a change should be made. Riparian rights are founded upon the ancient doctrine of the common law. If the law is a progressive science, courts should keep pace with the progress and advancement of the age, and constantly bear in mind the wants and necessities of the people, and the peculiar conditions and surroundings of the country in which they live. In this connection it has been said to be one of the excellencies of the common law that it admits of perpetual improvement, by accommodating itself to the circumstances of every age, and applies to all changes in the modes and habits of society, and that in this respect it will never be outgrown by any refinements,

and never out of fashion, while the ideality of human nature exists.

* * * * *

The truth is that under the principles of the common law in relation to riparian rights, if applicable to our circumstances and conditions, there must be allowed to all, of that which is common, a reasonable use. But, if prior appropriation is to prevail, *then different rules must be applied.*

Under the principles of prior appropriation, the law is well settled that the right to water flowing in the public streams may be acquired by an actual appropriation of the water for a beneficial use; that, if it is used for irrigation, the appropriator is only entitled to the amount of water that is necessary to irrigate his land, by making a reasonable use of the water; that the object had in view at the time of the appropriation and diversion of the water is to be considered in connection with the extent and right of appropriation; that, if the capacity of the flume, ditch, canal, or other aqueduct, by means of which the water is conducted, is of greater capacity than is necessary to irrigate the lands of the appropriator, he will be restricted to the quantity of water needed for the purposes of irrigation, for watering his stock, and for domestic use; that the same rule applies to an appropriation made for any other beneficial use or purpose; that no person can, by virtue of his appropriation, acquire a right to any more water than is necessary for the purpose of his appropriation; that, if the water is used for the purpose of irrigating lands owned by the appropriator, the right is not confined to the amount of water used at the time the appropriation is made; that the appropriator is entitled, not only to his needs and necessities at that time, but to such other and further amount of water, within the capacity of his ditch, as would be required for the future improvement and extended cultivation of his lands, if the right is otherwise kept up; that the intention of the appropriator, his object and purpose in making the appropriation, his acts and conduct in regard thereto, the quantity and character of land owned by him, his necessities, ability, and surroundings, must be considered by the courts, in connection with the extent of his actual appropriation and use, in determining and defining his rights; that the mere act of commencing the construction of a ditch with the avowed intention of appropriating a given quantity of water from a stream gives no right to the water unless this purpose and intention are carried out by the reasonable, diligent,

and effectual prosecution of the work to the final completion of the ditch, and diversion of the water to some beneficial use; that the *rights acquired* by the appropriator *must* be exercised with reference to the general condition of the country and the necessities of the community, and measured in its extent by the actual needs of the particular purpose for which the appropriation is made, and not for the purpose of obtaining a monopoly of the water, so as to prevent its use for a beneficial purpose by other persons; that the diversion of the water ripens into a valid appropriation only where it is utilized by the appropriator for a beneficial use; that the surplus or waste water of a stream may be appropriated, subject to the rights of prior appropriators, *and such an appropriator is entitled to use all such waters*; that, in controversies between prior and subsequent appropriators of water, the question generally is whether the use and enjoyment of the water for the purposes to which the water is applied by the prior appropriator have been in any manner impaired by the acts of the subsequent appropriator.

These general principles are of universal application throughout the states and territories of the Pacific coast. They have, in one form or another, been declared, upheld, and maintained by a uniform current of decisions in this state." (Citing the leading decisions from all the arid states, including the citation of *Coffin vs. Left Hand Ditch Co.*, 6 Colo., 443; *Hammond vs. Rose*, 11 Colo., 524; *Atchison vs. Peterson*, *supra*, and *Broder vs. Water Co.*, *supra*).

" * * * A person appropriating a water right on a stream already partly appropriated acquires a right to the surplus or residuum he appropriates. * * *

"Under the law of riparian proprietorship, an upper riparian proprietor is entitled to make a reasonable use of a portion of the water of a river to irrigate his riparian land, but he does not have any right to take the water away from the river to irrigate other lands, that are not riparian. * * *

Under the rules of riparian proprietorship, the right to the use of the water in its natural flow is not a mere easement or appurtenance, but is inseparably annexed to the soil itself. It does not depend upon appropriation, or presumed grant from long acquiescence on the part of the other riparian proprietors above and below, but exists, *jure naturae*, as parcel of the land. It is not suspended or destroyed by mere nonuser, although it may be extinguished by the long-continued, adverse enjoy-

ment of others. It is not affected by the use to which the water has been or may be applied. Use does not necessarily create the right, and disuse cannot destroy or suspend it. * * *

The right to water acquired by prior appropriation is not dependent upon the place where the water is used. A party having obtained the prior right to the use of a given quantity of water, is not restricted in such right to the use or place to which it was first applied. It is well settled that a person entitled to a given quantity of the water of a stream may take the same at any point on the stream, and may change the point of diversion at pleasure, and may also change the character of its use, if the rights of others be not affected thereby." (Citing Colorado and other authorities.)

Union Mill & Mining Co. vs. Dangberg, 81 Fed., 73, 92-5, 106, 115.

It would seem unnecessary to further quote from the federal authorities at this time. As we shall hereafter observe, the general doctrine in its several phases, as announced in the foregoing decisions, is accepted and approved in the following Federal cases from the District of Colorado:

Snyder vs. Colorado Gold Dredging Co., 181 Fed., 62, 69; 10 C. C. A., 136.

Empire W. & P. Co. vs. Cascade Town Co. (C. C. A., 1913), 205 Fed., 123, 127.

Cascade Town Co. vs. Empire W. & P. Co., 181 Fed., 1011, 1013-16.

An inter-watershed diversion for use of water from Stemilt Creek upon lands in the foreign watershed of Squillechuck Creek was treated as permissible by the Supreme Court of Washington. In the opinion the court recognizes the fundamental principles of appropriation as follows:

"The law of appropriation is a creature of necessity. It is a growth peculiar to conditions unknown to the common law."

Miller vs. Wheeler, 54 Wash., 429, 436; 103 Pac., 641.

The same court, in an early decision, made the following announcement:

"The right of appropriation, as defined by the best authorities, is *not* controlled by the location of the stream with reference to the premises which are irrigated."

Offield vs. Ish, 21 Wash., 277; 57 Pac., 809.

Prof. Joseph R. Long, in his very recent (1916) work on irrigation, says:

"In our examination of the doctrine of riparian rights, we found that the riparian proprietor may use the water of a stream for irrigation only on riparian lands. In this respect there is a wide difference between the right of the appropriator and that of the riparian owner. The right to water acquired by priority of appropriation is *not* in any way dependent on the *locus* of its application to the beneficial use designed.

The water may be used either in the valley of the stream from which it is taken or it may be carried over an intervening ridge to land lying in the valley of another stream, and there used. The water may be diverted to the exclusion of a riparian owner, as will be necessary where the lands to be irrigated therewith are not located on the banks, or in the neighborhood of the stream."

Long on Irrigation (2nd Ed.), page 217; (1st Ed.), p. 92.

The late and learned Clesson S. Kinney, in the last edition of his work on "Irrigation and Water Rights," thus defines the arid region doctrine of appropriation:

"The Arid Region Doctrine of appropriation may be defined as that doctrine or rule of law which has grown up in this Western portion of our country, governing the use of the water of the natural streams and other bodies, by its appropriation for any useful or beneficial purpose, based upon the physical necessities of the case; and, whereby for the purpose of applying the water to some beneficial use, the water must be diverted from its natural channels, and, *in contradistinction to the strict construction of the common law of riparian rights, the place of use may be on either riparian or non-riparian lands, and the right based upon priority.*"

Kinney on Irrigation (2nd Ed.), Vol. 1, Sec. 587, pp. 1009-10.

In a later chapter, he says:

"*There is no question now as to the right of an appropriator to divert the water from a stream flowing in one watershed and by any means conduct it for the irrigation of lands in another watershed. Yet in an early*

case in Colorado the validity of the appropriation and use of the water by this method was questioned, but the Court upheld the right. Under a similar state of facts to those in the Colorado case, the Supreme Court of Washington in a very recent case also upheld the right. Both cases also involved the question of mingling the waters of one watershed with the waters of the stream of another and the right to red divert the water from the latter stream and use the water for irrigation, and the right to do this was upheld.

The general rule is that under the law of appropriation, as contrary to the law of irrigation as a riparian right, the water may be used in any locality, however remote from the stream from which it is taken, or it may be carried over or through the intervening ridge to land lying in another watershed, and there used, provided that the vested rights of others are not injured thereby."

Kinney on Irrigation (2nd Ed.), Vol. 2, Sec. 866, pp. 1521-2.

Under the common-law doctrine, a riparian proprietor cannot divert all of the water of the stream. The rule is thus announced in an early Massachusetts case:

"This rule, that no riparian proprietor can wholly abstract or divert a water-course, by which it would cease to be a running stream, or use it unreasonably in its passage, and thereby deprive a lower appropriator of a quality of his property, deemed in law incidental and beneficial, necessarily flows from the principle, that the right to the reasonable and beneficial use of a running stream, is common to all the riparian proprietors, and so, each is bound so to use his common right, as not essentially to prevent or interfere with an equally beneficial enjoyment of the common right by all the proprietors."

Elliott vs. Fitchburg R. R. Co., 10 Cush., 191, 195.

Under the rule of priority, the contrary obtains, and the first appropriator is entitled to divert such water as may be necessary for the beneficial use for which the same was appropriated, regardless of junior appropriations, and even though it require the entire flow of the stream to supply his prior wants.

This rule was early announced by Justice Helm in a Colorado case in the following language:

"Had there remained water in the stream after such diversion and use by Guiraud, plaintiff in error would

have had the undoubted right to appropriate the same. *But since Guiraud diverted the usual flow of water to the full extent thereof*, plaintiff in error could acquire no absolute right to any part of such usual or ordinary flow, when required by defendants in error; he might divert and use the same at such times as Guiraud and those who held under him were not in need thereof; and when there was an excess over the ordinary flow he might legally appropriate water to the extent of such excess; but when there was not enough for both, the diversion of plaintiff in error must give way to the prior right of defendants in error to the extent of Guiraud's original appropriations."

Thomas vs. Guiraud, 6 Colo., 530, 532.

In the quotation from the opinion of Judge Hawley of the Federal Court of Nevada, the same rule is approved in the following language:

"That the surplus or waste water of a stream may be appropriated, subject to the rights of prior appropriators, *and such an appropriator is entitled to use all such waters.*"

Union Mill & Mining Co. vs. Dangberg, 81 Fed., 73, 95.

The rule is thus announced by Professor Long in his recent (1916) work:

"We have seen that the rights of an appropriator depend solely upon the fact of prior appropriation, and that an irrigator may use all the water, not already appropriated by others, that may be reasonably necessary for the irrigation of his land. Except as against prior appropriators, the rights of an appropriator, unlike those depending upon the fact of riparian ownership, are measured solely by his own needs and actual appropriation, and he is not concerned with the effect of the satisfaction of his own wants on other persons. It follows from these principles that *a prior appropriator may use the entire flow of a stream for irrigation, provided this is necessary, for the proper irrigation of his land.*"

Long on Irrigation (2 Ed.), Sec. 132, page 232, and cases cited.

See also Drake vs. Earhart, 2 Ida., 750; 23 Pac., 541.

Mr. Kinney devotes several pages of his recent and

exhaustive treatise on the arid region doctrine of appropriation to this particular topic, and after observing that the doctrine of appropriation was adopted largely on account of the fact that the very limited supply of water in the streams of the arid region was wholly inadequate to supply the almost unlimited acreage of land, says:

"The rule of priority of right was adopted, in order that the few who were first might live and live well rather than that the many should starve or eke out a miserable existence."

And concludes by saying:

"Under this principle, the general doctrine is settled by a long line of authorities, * * * that the *prior appropriator* of the waters of a certain stream or other source of water supply, is entitled to the *exclusive use* of the water up to the amount embraced in his appropriation, *even if it cuts off the rights of valid subsequent appropriators.*"

Kinney on Irrigation (2 Ed.), Vol. 2, Sec. 780, 781-4, pages 1355-69.

(3-a) Hoge vs. Eaton Overruled.

The disposition and regulation of the use of waters is a matter of local law with each state and the rules adopted by the constitution, laws and decisions of the courts of each state will be followed by the courts of the United States.

Kinney on Irrigation (2d Ed.), Vol. 1, p. 1027;
United States vs. Rio Grande Irr. Co., 174 U. S., 690;

Gutierrez vs. Albuquerque Land & Irr. Co., 188 U. S., 546;

Clark vs. Nash, 198 U. S., 361;

Kansas vs. Colorado, 206 U. S., 46;

Boquillas Cattle Co. vs. Curtis, 213 U. S., 339;

Schodde vs. Twin Falls Water Co., 224 U. S., 107.

Notwithstanding that the State of Colorado, by constitution, statutes and a uniform line of judicial decisions, has abrogated the common law rule of riparian rights and has adopted the doctrine of appropriation as governing the use of the water of the streams within its borders, and has early declared, in Coffin vs. Left Hand Ditch Co., 6 Colo., 443 and other cases which we have cited, that the appropriator might take the water whithersoever his necessities require and may apply the same upon lands within a drainage area wholly

foreign to the stream of origin, the late Judge Hallett of the Federal District Court of Colorado, shortly before he retired, while considering an inter-watershed diversion from Sand Creek to Sheep Creek involved in the case of Hoge vs. Eaton, used the following language:

"Water is essential to human life in the same degree as light and air, and no bounds can be set to its use for supplying the natural wants of man other than the mighty barriers which the Creator has made on the face of the earth."

This opinion was rendered February 27, 1905, previous to decision of this court (on May 13, 1907) in the case of Kansas vs. Colorado. While the above quotation may be interpreted as referring alone to the physical inability of the appropriator to overcome natural obstacles, it is naturally interpreted as announcing a riparian doctrine contrary to the uniform rule theretofore adopted and since hitherto followed in the State of Colorado, and is frequently cited as Colorado authority against inter-watershed diversions, and, therefore merits our careful consideration. The manifest error of this language of Judge Hallett is revealed by our many quotations from the constitution, statutes and decisions of the courts of Colorado, already appearing, and we will not unduly prolong this brief with further consideration thereof.

The same judge seems to have committed a similar error in the case of Schwab vs. Beam, 86 Fed., 41, in which he held that Article XVI, Section 6 of the Colorado Constitution does not apply to diversions for manufacturing, mining and mechanical uses, but that as to such the common law rule prevails and also that one who locates a placer claim upon a stream thereby, by implication, makes an appropriation of water, saying:

"A placer location ex vi termini imports an appropriation of all waters covered by it in so far as such waters are necessary for working the claim."

A reading of the decision reveals the fact that Judge Hallett was laboring under the same fundamental error of interpretation of the doctrine of appropriation in both that case and Hoge vs. Eaton.

The case of Hoge vs. Eaton was reviewed by the Circuit Court of Appeals and reversed upon another point (Eaton vs. Hoge, 141 Fed., 64), the appellate court confining its discussion to technical matters and failing to express any opinion upon the erroneous doctrine so announced. The case was subse-

quently dismissed without affording further opportunity of consideration or review by any of the federal courts.

The same erroneous doctrine, announced in the case of Hoge vs. Eaton, was later considered and overruled by the Circuit Court of Appeals in the case of Snyder vs. Colorado Gold Dredging Co., 181 Fed., 62; 104 C. C. A., 136. The reasons there assigned by Mr. Justice Van Devanter are so conclusive of what the opinion of that court would doubtless have been upon further consideration of the case of Hoge vs. Eaton that the language of the court may be taken as overruling that case.

The case of Snyder vs. Colorado Gold Dredging Co. involved an appeal from the Circuit Court of the United States for the District of Colorado, and it was there contended, under authority of the case of Schwab vs. Beam, *supra*, that the location of a placer claim was in and of itself an appropriation of all the waters of the stream upon which the same was located, and that, although no diversion was made for said claim, a right to use the water of the stream attached to it as an incident to and part of the estate included within the patent from the United States. In other words, it was asserted that the common-law rule of riparian rights obtained with relation to patented mining claims situate along a stream by virtue of the fact that the patent carries, by implication, the right to the use of any waters of any stream bordering and traversing the claim.

The court said:

"The argument is plausible but not tenable. It is in conflict with the established doctrine of appropriation in Colorado and with its recognition and sanction by Colorado as respects the public lands. That doctrine regards the waters of natural streams as entirely distinct from the lands through which they flow, and regards rights to the use of such waters as dependent upon actual appropriation. In these respects *it makes no distinction between public lands and private lands, between owners of riparian lands and owners of other lands, between places of use which are adjacent to a stream and those which are remote therefrom, or between individuals who desire to apply the waters to placer mining and those who desire to apply them to other beneficial uses. Nor does it recognize a merely constructive appropriation or one which rests only on intention. On the contrary its requirements are satisfied only when by union of intent and act the waters actually are subjected to a beneficial use.*"

The court then quotes with approval the definition of the true test of an appropriation, heretofore quoted from *Thomas vs. Guiraud*, 6 Colo., 530, 533, and from other decisions of the Supreme Court of Colorado, and continues as follows:

"True, gold placer claims cannot be worked without water, *but this applies to non-riparian claims* quite as much as to those which are riparian, and water usually is applied to both in substantially the same way; that is, by a ditch which diverts it at a point beyond the limits of the claim and then carries it to the place of use. *Rarely can a riparian claim be worked successfully by the aid of the waters of the contiguous stream unless they be diverted some distance above the claim, and even then the volume of water is often so inadequate that it must be supplemented by drawing upon another stream.* Nor are gold placer claims alone in requiring the use of water to render them productive or of value. In Colorado other claims to public lands, such as homestead claims and desert claims, have a like need of water. Indeed, the desert land law (Act March 3, 1877, c. 107, 19 Stat., 377; as amended by Act March 3, 1891, c. 561, sec. 2, 26 Stat., 1096 [U. S. Comp. St. 1901, p. 1549]) conditions the right to make the preliminary entry upon the making of a declaration under oath of an intention to reclaim the land by conducting water upon the same, and conditions the right to make final entry upon the making of satisfactory proof of reclamation by that means; and yet a preliminary desert entry, even if it be of riparian lands, never is regarded as in itself an appropriation of water, any more than is a preliminary homestead entry of non-riparian lands. * * * Considerations such as these point very persuasively to the absence of any good reason for excepting riparian gold placer claims from the doctrine prevailing in Colorado that the waters of all natural streams are subject to appropriation, and that actual application to a beneficial use is the test of appropriation. But it suffices to know that in that state the local customs, laws and decisions of courts make no such exception.

In Schwab vs. Beam (C. C.), 86 Fed., 41, a different conclusion was announced, *but that decision stands alone, is not in accord with the decisions of the Supreme Court of Colorado* respecting the application of the doctrine of appropriation as there prevailing to the use of water for purposes other than irrigation, *and is not sustained by what seems to be the better reasoning.* The

several congressional enactments, whereby the local customs, laws, and decisions of courts relating to rights to the use of water have been recognized and sanctioned, disclose a settled purpose to make the subject one of local law, as respects the public lands and claims thereto under the public land laws; and in none of these enactments is there anything indicative of a purpose to treat riparian gold placer claims differently from other claims. Not only so, but the first expression of this recognition and sanction was incorporated in the mining laws of the United States at the time of their enactment and still remains a part of them. It broadly includes 'rights to the use of water for mining, agricultural, manufacturing, or other purposes,' and leaves no room to doubt that it was intended that the local law should apply to riparian gold placer claims the same as to other claims to public lands. Mr. Lindley, in his work on Mines ([2d Ed.] vol. 1, sec. 428), puts the matter quite accurately when he says:

'As to what rights accrue to a placer locator to the water of a non-navigable stream found within the limits of the location, no definite rule can be stated. It will depend upon the locality in which the claim is situated. If in a state where the ultra doctrine of the common law prevails, his rights to the water would be limited to those of a riparian proprietor. *If in a state where the riparian doctrines are abrogated* or declared never to have been adopted, his right to use the water would depend upon its proper appropriation for that purpose, and the mere location of the placer claim would not of itself confer any right to the water.'

What has been said disposes adversely of the first branch of the contention before stated, and also makes strongly against the second branch, viz., that a patent for a placer claim carries, by implication, the right to the unappropriated waters of any stream bordering upon or traversing the claim. It needs only to be added that, by the settled rule of decision in the Supreme Court of the United States, conveyances by the United States of public lands on non-navigable streams and lakes, when it is not provided otherwise, are to be construed and have effect according to the *law of the state* in which the lands are situate, in so far as the rights and incidents of riparian proprietorship are concerned. *Hardin vs. Jordan*, 140 U. S., 370, 384, 402; 11 Sup. Ct., 808, 838; 35 L. Ed., 428; *Hardin vs. Shedd*, 190 U. S., 508, 519; 23 Sup. Ct., 685; 47 L. Ed., 1156; *Whitaker vs. McBride*, 197 U. S., 510;

25 Sup. Ct., 530; 49 L. Ed., 857; *Harrison vs. Fite*, 78 C. C. A., 447, 449; 148 Fed., 781, 783. Here it is not provided otherwise, either by statute or by the patent, and, as has been seen, the local law does not recognize a conveyance of the land as carrying any right to the unappropriated waters of the stream."

In a former part of the opinion, the court had announced the appropriation doctrine as it prevails in Colorado in the following language:

"* * * *The common-law doctrine in respect of the rights of riparian proprietors in the waters of natural streams never has obtained in Colorado.* From the earliest times in that jurisdiction the local customs, laws, and decisions of courts have united in rejecting that doctrine and in adopting a different one which regards the waters of all natural streams as subject to appropriation and diversion for beneficial uses, and treats priority of appropriation and continued beneficial use as giving the prior and superior right. *Yunker vs. Nichols*, 1 Colo., 551; *Coffin vs. Left Hand Ditch Co.*, 6 Colo., 443, 447; *Platte Water Co. vs. Northern Colo. Irrigation Co.*, 12 Colo., 525, 531; 21 Pac. 711; *Crippen vs. White*, 28 Colo., 298; 64 Pac., 184. In so choosing between these inconsistent doctrines, Colorado acted within the limits of her authority, first as a territory and then as a state, and her choice was recognized and sanctioned by Congress, so far as the public lands of the United States were concerned. *United States vs. Rio Grande Irrigation Co.*, 174 U. S., 690, 702-706; 19 Sup. Ct., 770; 43 L. Ed., 1136; *Gutierrez vs. Albuquerque Land & Irrigation Co.*, 188 U. S., 545, 552-554; 23 Sup. Ct., 338; 47 L. Ed., 588; *Clark vs. Nash*, 198 U. S., 361, 370; 25 Sup. Ct., 676; 49 L. Ed., 1085; *Kansas vs. Colorado*, 206 U. S., 46, 94; 27 Sup. Ct., 655; 51 L. Ed., 956; *Boquillas Land & Cattle Co. vs. Curtis*, 213 U. S., 339; 29 Sup. Ct. 493; 53 L. Ed., 822."

From the language of the foregoing opinion so overruling the lower court in the case of *Schwab vs. Beam*, and announcing that water may be appropriated for use on "non-riparian claims quite as much as those which are riparian" and that sufficient water for this purpose must be frequently obtained "by drawing upon another stream," it is apparent that the Circuit Court of Appeals has expressed its disapproval of the

riparian theories entertained by Judge Hallett and announced in both *Hoge vs. Eaton* and *Schwab vs. Beam*, and has overruled the former as well as the latter decision.

That Judge Hallett erroneously construed the laws of Colorado in these earlier cases of *Hoge vs. Eaton* and particularly *Schwab vs. Beam*, is likewise recognized by Mr. Kinney on pages 1111 and 3333-4 of his recent work. In Section 1804, on the pages last mentioned, he discusses the abrogation of riparian rights in Colorado and quotes at length the language of the Circuit Court of Appeals in the case of *Snyder vs. Colorado Gold Dredging Company*, *supra*, in that portion above quoted wherein the rule as announced in *Schwab vs. Beam* is overruled, and also calls attention to a very recent decision of the Colorado Supreme Court in the case of *Sternberger et al. vs. Seaton Mining Co.*, 45 Colo., 401, 404; 102 Pac., 168, wherein that court forever sets at rest any possible application of the theories announced in *Schwab vs. Beam* in the following language:

"The doctrine of this state, that the common law rule of continuous flow of natural streams is abolished, is so firmly stated by the constitution, the statutes of the Territory and of the State and by many decisions of this court that we decline to reopen or reconsider it, however interesting discussion thereof might otherwise be, and notwithstanding its importance. Perhaps a leading case in this state is *Coffin vs. Left Hand Ditch Co.*, 6 Colo., 443."

On page 1111 Mr. Kinney, in a foot-note, thus comments of *Schwab vs. Beam*:

"This position is clearly untenable under either the common law rules or the arid region doctrine of appropriation. Under the common law rule there is no 'appropriation' of the waters of the stream, but mere ownership of riparian lands. By reason of this ownership the owner is entitled to a reasonable use of the waters of the stream as an incident to his land * * *. Upon the other hand under the arid region doctrine of appropriation, the mere location of mining claims or the purchase of land upon the bank of the stream is not *ipso facto* an appropriation of the waters thereof. Some act of actual appropriation of the water is required."

Mr. Wiel, in his work written with particular application to the California common law—appropriation doctrine, thus disposes of that portion of Judge Hallett's decision in the case of *Schwab vs. Beam* wherein he states that "in Colorado, as

elsewhere in the United States, the law is now as it has been at all times, that for such purposes each riparian owner may use the waters of running streams on his own premises, allowing such waters to go down to subsequent owners in their natural channel." (86 Fed., 41.)

"This seems to show that the decision rested *not* on the principles of appropriation but on those of riparian rights. The placer claimant under the California doctrine, has a right to the use of water in that way but not by appropriation. *Schwab vs. Beam* would seem to be an attempt to apply the California doctrine in Colorado, a principle which the State court repudiates. The case has been criticised; is contrary to the weight of more recent authority just cited, and is properly overruled." Citing *Snyder vs. Colorado Gold Dredging Co.*, *supra*.

Wiel on Water Rights, 3d Ed., Vol. 1, p. 395.

Judge Lewis, successor to Judge Hallett, overrules the erroneous impression entertained by Judge Hallett to the effect that the riparian doctrine still obtained within Colorado, in his recent 1910 opinion in which he says:

"The first contention of both complainants is that the government, while it was the owner of the lands on which the canon and the falls are situate, had riparian rights in the stream and that those rights were conveyed by patent from it, their true mesne conveyances, to the complainants.

This contention cannot be accepted. *There are no riparian rights in Colorado* as against the valid appropriation of water."

Judge Lewis then adopts the quotations which we have already given from *Sternberger vs. Seaton Mining Co.*, 45 Colo., 401, 404; *Coffin vs. Left Hand Ditch Co.*, 6 Colo., 443; U. S. vs. *Rio Grande Irr. Co.*, 174 U. S., 690, 702, 704; *Gutierrez vs. Albuquerque Land Co.*, 188 U. S., 545, 552; *Clark vs. Nash*, 198 U. S., 361, 370, and *Snyder vs. Colorado Gold Dredging Co.*, 181 Fed., 62, as a part of his opinion, and concludes by saying:

"It is therefore believed that the patent from the government did not pass, and the patentee did not take, riparian rights to the waters in question, but that said lands are held by the complainants subject to the law of appropriation of waters as established in this state." (Colorado.)

Cascade Town Co. vs. Empire Water & Power Co.,
181 Fed., 1011, 1013-6.

The decision by Judge Lewis in the above case was reviewed by the Circuit Court of Appeals. On April 4, 1913, the case was remanded for further proceedings upon another point and the court affirms that portion of the decision above quoted in the following language:

"In all other respects the conclusions of the court were in accord with the views we have expressed."

The opinion by Judge Hook reads, in part, as follows:

"Moreover, the common law of riparian ownership in *all* its features never obtained in Colorado. *Snyder v. Dredging Co.*, 104 C. C. A., 136; 181 Fed., 62. It was unsuited to the region and would have tended greatly to prevent the very development which made the lands valuable. Express recognition of the local conditions and necessities is found in the acts of Congress above referred to and in the patents from which complainant derives its title. See 174 U. S., 690; 19 Sup. Ct., 770; 43 L. Ed., 1136. The National Constitution speaks in the terms of the common law, and that law has been qualifiedly adopted by statute in many states. But there has been no statutory adoption of it for the United States. There its acceptance rests on judicial construction proceeding upon historical reasons and a general sense of suitableness, and like that of the states is qualified to a harmony with our institutions and conditions. It does not automatically apply all over the United States, its territories, and possessions as a blanket of unvarying thickness, but yields here and there to a universal recognition of necessity and propriety. For examples: Our test of the navigability of waters is not that of the common law (*The Daniel Ball*, 10 Wall., 557; 19 L. Ed., 999); and we have quite generally denied the doctrine of ancient lights. *It would be as illogical to impose the English doctrine of flowing waters upon Colorado as it would be to say judicially that their climate and soil and the imperative needs of their people are the same.* Referring to Montana and Wyoming and the use of waters of non-navigable streams, Mr. Justice Holmes said, in *Bean v. Morris*, 221 U. S., 485; 31 Sup. Ct., 703; 55 L. Ed., 821:

'The doctrine of appropriation has prevailed in these regions probably from the first moment that they knew of any law, and has continued since they became territory of the United States.'

And so in Colorado. That rights may vary and be adjusted somewhat to the *imperative necessities* of natural conditions is also exemplified in *Clark v. Nash*, 198 U. S. 361, 25 Sup. Ct. 676, 49 L. Ed. 1085, 4 Ann.

Cas. 1171, and *Strickley v. Mining Co.*, 200 U. S. 527, 26 Sup. Ct. 301, 50 L. Ed. 581, 4 Ann. Cas. 1174."

Empire Water & P. Co. vs. Cascade Town Co., 205 Fed., 123, 127.

The opinions by the United States District Court and the Circuit Court of Appeals are, to all purposes, affirmed by this court:

"The right to the use of water is not confined to riparian proprietors. *Gutierrez vs. Albuquerque Land Irr. Co.*, 188 U. S., 545, 556; *Coffin vs. Left Hand Ditch Co.*, 6 Colorado, 443, 449, 450; *Willey vs. Decker*, 73 Pac. Rep., 210, 220. Such limitation would substitute accident for a rule based upon economic conditions and an effort, adequate or not, to get the greatest use from all available land."

Boquillas Co. vs. Curtis, 213 U. S., 339, 347.

It thus appears that the erroneous construction of the Colorado law by Judge Hallett, in *Hoge vs. Eaton*, has been overruled by his successor, by the United States Circuit Court of Appeals and by this court.

Accident has placed the divides between watersheds or the "mighty barriers" on the face of the earth. The limitation of the use of water in Colorado to the drainage area of the stream, in order that such water might be returned to the stream for use of other riparian owners, would be such a limitation as "would substitute accident for a rule based upon economic conditions, and an effort, adequate or not, to get the greatest use from all available land."

The imperative necessities of Colorado forbid the application of this riparian rule and

"It would be as illogical to impose the English doctrine of flowing waters upon Colorado as it would be to say judicially that their climate and soil and the imperative needs of their people are the same."

The carrying of water across divides for reclamation of arid lands is, in all essentials, the same, and prompted by the same rule of imperative necessity, as the construction of isthmian canals between great oceans in aid of navigation. Either is in direct opposition to nature and in either case the natural barrier is wholly disregarded in order that the greatest good may come to the greatest number of mankind. The necessities of agriculture in the arid regions are as imperative as those of commerce upon the seas, and it would be just as reasonable and logical to forbid the construction of

isthmian canals in aid of commerce as it would be to deny the right of inter-watershed diversions in aid of reclamation of arid lands. To argue that a sanctity attaches to an isthmus separating two oceans, would be as unreasonable as the argument advanced on page 116 of the brief of counsel for complainant that "each watershed has a natural unity and sanctity of its own" and that "there can be no equitable division of waters between lands or inhabitants within one watershed and those located in other watersheds, which does not recognize the laws of nature and the natural preference which is inherent in the lands and the people of the valley." We fail to find any reputable authority for such argument in any of the many decisions of the state and federal courts of the arid west or in any decisions of this court, and it is evident that any limitations against inter-watershed diversions have been imposed in regions where the common law doctrine of equal (not exclusive) use of the waters of the streams runs alike to all riparian proprietors.

To argue that a "sanctity" attaches to divides between watersheds or to what Judge Hallett terms "the mighty barriers which the Creator has placed on the face of the earth," is as ill-founded as were the early arguments against the construction of the Isthmian canal wherein it was urged that because the Creator had placed the Isthmus of Panama between the Atlantic and Pacific oceans, no man should part it asunder. The United States has constructed the Panama Canal to the benefit of all mankind, and yet it is historically reported as follows:

Philippe Bunau-Varilla, Minister Plenipotentiary of the Republic of Panama, in his work "The Creation, Destruction and Resurrection of Panama," page 19, says:

"It was not the destiny of Cortez to make that discovery, or that of any other navigator who dreamed of finding the *Secret of the Straits*.

The idea of connecting Nature was mooted, but Phillip the Second forbade any modification of what God had created. The junction of oceans remained in the realm of dreams."

A. Barton Hepburn, in the work entitled "Artificial Waterways of the World," on page 26 states:

"In the reign of Charles II, the Council of Castile opposed canal plans, as an interference with the wisdom of Divine Providence, which had fixed the waterways."

On page 109 the author states:

"The advantage of such a canal was clearly perceived as early as 1520, when Charles V of Spain is reported to have given it consideration. In 1534 a survey was ordered, but unfavorable reports of the Spanish governor at Panama and probably also his suggestion that such a work would be in 'opposition to the will of the Almighty, who had placed this barrier in the way of navigation between the two oceans,' caused the project to be abandoned; * * *

The author makes the following note in regard to this statement:

"The medieval religious fervor that dominated the action of Spain in all things, seems ludicrous in the light of present day advancement."

Frederic J. Haskin, in his work entitled "The Panama Canal," on pages 194, 195, says:

"The idea of the canal through the American Isthmus was in the mind of Charles V of Spain as early as 1520. In that year he ordered surveys to ascertain the practicability of a canal connecting the Atlantic and Pacific. His son, Phillip II, did not agree with him about the desirability of a trans-Isthmian waterway, holding that a ship-way through the Isthmus would give to other nations easy access to his new possessions, and in time of war might be of greater advantage to his enemies than to himself. He invoked the Bible to put an end to these propositions to dig a canal across the American Isthmus, calling to mind that the Good Book declared that 'What God hath joined together, let no man put asunder.'"

(d) *Plaintiff's Brief.*

Little discussion of this topic, as treated by plaintiff's counsel on pages 112-21 of their brief, is necessary owing to the fact that their whole discussion is predicated upon the erroneous assumption that the common-law doctrine of riparian rights prevails in Wyoming and Colorado, notwithstanding, as we have previously observed, that in Wyoming, as well as in Colorado, the doctrine of appropriation has been adopted for intra-state regulation, and the common law doctrine of riparian rights abrogated by the constitution, statutes and decisions of the courts of each of said states.

We have previously observed that under the riparian doctrine of common-law rights, inter-watershed diversions are, in some cases, prohibited wherever waters so diverted could

not be returned to the stream for the use of other riparian owners, and that the reason for the rule lies in the riparian doctrine that each and all of the riparian land owners have an equal, rather than exclusive, right to the use of the waters of the streams as they flow.

We have also observed that the contrary rule obtains under the doctrine of appropriation where the first appropriator has an exclusive (not equal) right to the beneficial use of the waters of the stream to the extent of his necessities to the exclusion of all junior appropriators and others claiming any waters of the stream, and that his exclusive use may be made upon non-riparian lands including those outside the natural watershed of the stream and that this right to the exclusive use of the water of the streams in order of priority obtains in Wyoming as well as in Colorado.

Counsel open their argument upon this topic with the following statement:

“We feel bound to concede that the common law doctrine of riparian rights is substantially a world doctrine which has persisted through historical times.”

and, after stating that they have been able to find but one case under the *riparian* doctrine wherein such inter-watershed diversion was permitted, state:

“On the other hand, it seems to be fairly well established that such conduct is not consistent with the rights of *riparian* proprietors where such rights are recognized, and that lands beyond the watershed are *not riparian* to the stream.” (Italics ours.)

Several citations, admittedly from riparian states and authors, upon the common law doctrine, are then made as authority for the statement last quoted. Inasmuch as the appropriation doctrine is in derogation of and opposed to the common law rule of riparian rights, it would seem unnecessary to undertake a detailed analysis of these several citations from courts construing the law of states where the riparian doctrine prevails, for the reason that a different rule obtains under the doctrine of appropriation.

Counsel then admit that the underlying reason of these decisions is the fact that water diverted beyond the watershed does not return, in whole or in part, to the parent stream, but fail to state that there is a duty of return under the common law doctrine purely by reason of the fact that all riparian appropriators have the same and equal rights to the use of the water of the stream, while the contrary is true under the appropriation doctrine. They then state that the obligation to return

surplus water is very generally established in the various states by the statutes and decisions of courts and that Colorado alone seems to have dissented from this rule.

The error of this last statement is revealed in the preceding paragraphs of this brief wherein it is observed that the rule prevails throughout the arid region as well as in Colorado, and an inspection of the two citations (1 Wiel on Water Rights 282; Hutchinson vs. Watson Ditch Co., 16 Idaho, 484), offered as authority for the statement of the general establishment of the rule in the arid states, reveals the contrary.

The citation from Mr. Wiel, who is recognized as an exponent of the California common law or riparian doctrine, does not bear out the interpretation given it by counsel. The opening paragraph of the section reads:

"The necessity for taking the water to distant lands without returning it to the stream and making the right to water independent of ownership of riparian land aided in giving rise to the rule that the right is independent of ownership of land. Use on distant land is hence characteristic. This characteristic use on distant lands involves loss of the efficiency of the water and is a necessary evil of the law of appropriation."

The case of Hutchinson vs. Watson Ditch Co., *supra*, is not in point and does not involve the return of any water back to the stream. In that case parties diverted water from Snake River through an intermediate side-channel or slough which constituted a natural watercourse. They took the water from Snake River into and along this slough to their headgates where they diverted it for use upon their lands. It became their custom to shut the water from their ditch by closing the mouth of the slough at Snake River rather than by closing their headgate from the slough, and in so doing they prevented the water from passing down the natural slough or watercourse by the lands of the plaintiff, as they would have flowed if the defendants had shut the water out at the headgate of their ditch instead of at the mouth of the watercourse. No question of return to the stream of waters once diverted for irrigation was involved, but purely the question as to whether or not they had a right to obstruct a natural watercourse when not using or diverting any water for irrigation. The court says:

"When they were not needing it or using it for carrying out or fulfilling the purposes of their appropriation, they were not content to allow it to flow in the natural channel of the stream where any and all might freely use it or acquire a right by appropriation and diversion, but they entirely cut off the source of supply and di-

verted it into another stream so that it could not flow in its natural stream. * * * This case must be considered independently of the question of appropriation and diversion. * * * As we have before seen, the common-law doctrine of riparian proprietorship, *whenever it comes in conflict with a water right acquired by appropriation*, is thus in conflict with and repugnant to the constitution and statutes of this state."

The court then decides that when the appropriators are making no diversion at all, they have no right to obstruct the stream and uses the following language:

"While appellants have acquired by location and appropriation the right to carry and convey waters through this slough and natural stream and waterway to the full capacity of the stream for irrigation purposes, and for those purposes may control the stream in so far as it is necessary to keep the same open and in repair, * * * still they have no right to entirely divert the water from the stream and turn it to waste down another stream or into another channel at such times as they are not using the water or exercising their rights under their appropriation * * * when they can not or will not use it they must allow it to flow in its natural channel, undisturbed, for the use of any other persons who may have a subsequent or inferior right to appellants or who may desire to acquire such right by appropriation or use."

See also,

Schodde vs. Twin Falls Water Co., 224 U. S., 107, 125.

Counsel next make the statement that in Colorado "it is not permitted to change the use under an appropriation once established, so that the surplus water will not return to the stream" and cite as authority therefor the decision of Fort Collins M. & E. Co. vs. Larimer and Weld Irr. Co. (Colo.), 156 Pac., 140, 143. A reading of the opinion in that case will reveal that the statement of counsel speaks but half the truth. In that case an attempt was being made to transfer the point of diversion from an old ditch with a large appropriation but theretofore used for a small acreage of land and from which the major portion of the water diverted had returned to the stream and constituted a source of supply of the stream at the time the rights of a junior appropriator attached. It was asserted

that making a change at the point of diversion and conveying the amount of water specified in the decree to distant lands, where it would all be consumed, would constitute an enlarged diversion and a depletion of the supply of the river to the extent of the enlarged use to the detriment of a junior appropriator. No question of inter-watershed diversion or return of the water after use to the original source of supply, like the one here in controversy, was there involved. It was purely a contention between a junior and senior appropriator involving the question of the right of the senior appropriator to cut off, by enlarged use, waters which had become tributary and a source of supply of the stream before the rights of the junior attached.

Counsel then cites the case of *Montrose Canal Co. vs. Loutsenhizer Ditch Co.*, 23 Colo., 233, as authority for the statement that Colorado

“pays tribute to the natural integrity of the watershed by certain constitutional provisions referring to certain natural use of riparian owners to the right to deplete the stream by appropriation.”

It again happens that the citation is not in point. Counsel evidently confuses certain provisions of the Wyoming constitution with Section 6 of Article XVI of the Colorado constitution. In the latter, provision is made for three general classes of use which the Colorado court in a later case has construed as merely giving a right of condemnation to the higher as against the lower use (*Town of Sterling vs. Pawnee D. & E. Co.*, 42 Colo., 421, 426), in which case the *Montrose Canal Co. vs. Loutsenhizer* is discussed. The natural integrity of a watershed is in no manner involved in either case, and neither can be cited as in any way modifying the rule of appropriation as it obtains in arid states.

Principal reliance seems to be placed in Mr. Wiel's work on *Irrigation and Water Rights* and upon a number of California decisions. We have already noted that Mr. Wiel is regarded primarily as an exponent of the riparian doctrine as construed in California where appropriation is only permitted when not in conflict with riparian rights. (See *Kinney on Irrigation*, 2nd Ed., Vol. 1, p. 1034-6.) The doctrine of appropriation there obtained as elsewhere until the decision of *Lux vs. Hagan*, 69 Calif., 255, since which time preference has been given riparian rights until quite recently, when the court, in the case of *Katz vs. Walkinshaw*, 141 Calif., 116, has again modified the rules theretofore announced and adheres to the rule that the necessities of the country, rather than the ancient rules of common law, must govern.

Kinney on Irrigation, (2nd Ed.) Vol. 1, p. 1023-5.
See also chapter "Arid Region Doctrines of Appropriation," chapter 31, pages 1005-36.

It is here interesting to note that in construing the following statute:

"The water appropriated may be turned into the channel of another stream and mingled with its waters and then reclaimed; but in reclaiming it, the water already appropriated by another must not be diminished."

Sec. 1413, Calif. Civil Code of 1872.

Deering's Ann. Code & Stat. of Calif. (1886), Vol. 2, p. 267, Sec. 1413.

Pomeroy's Codes of Calif. (1901), Sec. 1413, p. 405.

The Supreme Court of California referred to two cases involving inter-watershed diversions wherein they treated such diversions and the mingling of the foreign waters as entirely proper.

Eddy vs. Simpson, 3 Calif., 249.

Hoffman vs. Stone, 7 Calif., 426.

See also Butte Canal & Ditch Co. vs. Vaughn, 11 Calif., 143.

The first two of these cases are properly read together. In the latter case, Chief Justice Murray, after stating decisions involving the right to appropriate waters had been based upon the wants of the community and the peculiar conditions in the state, says:

"The fact early manifested itself, that mines could not be successfully worked without proprietorship in waters and it was recognized and maintained. To protect those who, by their energy, industry and capital, had constructed canals and races, *carrying water for miles into parts of the country which must otherwise have remained unfruitful and undeveloped*, it was held that the first appropriator acquired special property in the waters thus appropriated."

The above California statute, with its early construction by the Supreme Court of California, was later adopted by Idaho (Revised Code of Idaho, Sec. 3244). It will be noted that the decisions of the California court are prior to the case of Lux vs. Hagan.

Decisions are also cited from New York, North Dakota,

South Dakota, Nebraska, Kansas and Texas, in all of which the courts have declared the common-law doctrine of riparian rights applies, somewhat modified in connection with the use of water for irrigation.

Long on Irrigation (2nd Ed.), Sec. 10, p. 20.

The decisions of these courts are therefore not in accord with the appropriation doctrine of the arid states as adopted by both Wyoming and Colorado. The same observation will obtain with relation to the case of *Sturr vs. Beck*, 133 U. S., 541, applying the common-law doctrine as adopted in Dakota, and *Winters vs. U. S.*, 207 U. S., 564, involving water rights upon Indian Reservations, the title to which had not yet passed to Montana, one of the states adhering to the riparian doctrine as applied in California.

The erroneous construction by counsel of the laws of Mexico is evidenced by:

U. S. vs. Rio Grande Irr. Co., 174 U. S., 690.

Gutierrez vs. Albuquerque Land Co., 188 U. S., 545.

Boquillas vs. Curtis, 213 U. S., 239.

See also—

Kinney on Irrigation (2nd Ed.), Vol. 1, Secs. 576-84, pages 987-1003, for complete discussion of Mexican laws.

Counsel unfortunately confuse the common law rule with the opposite appropriation rule, with relation to the return of waters to the stream (p. 117). At common law it was the duty of the riparian owner "to return all that is not needed for such use" to the stream in order that other riparian owners might obtain a like use of the same water (*Long on Irrigation* (2nd Ed.), Secs. 65 and 66, pages 117-20), but under the appropriation doctrine no such rule obtains and the appropriator may convey the water "whithersoever necessity may require for beneficial use, without returning it or any of it to the natural stream in any manner."

Oppenlander vs. Left Hand Ditch Co., 18 Colo., 142, 149.

Kinney on Irrigation (2nd Ed.), Vol. 1, Sec. 587, pages 1009-10.

Under the riparian rule, the water could only be diverted for reasonable and non-consuming use, and any use which would consume the stream was prohibited in that no return of the

water could be made for other riparian owners with equal rights. Under the rule of appropriation, the owner of the ditch, as we have heretofore observed, may, if his needs require, consume the entire flow of the stream to the exclusion of all riparian owners and all junior appropriators. The essential difference between diversions under the two doctrines is that in the former the diversion was made with a specific intent and legal prerequisite that the water should be again returned to the stream before it should leave the riparian lands of the owner, while, with the latter doctrine, the appropriator must not divert more than enough water to satisfy his needs and must shut back and leave the remainder of the water in the stream for other appropriators. As said by the Colorado Supreme Court:

"A right to the use of water is limited in time and volume to the extent of the needs of the party in whose favor such right is established for the purpose named."

White vs. Nuckolls, 49 Colo., 170, 177.

In fact, the whole theory of exclusive right of the appropriator is predicated upon the limitation that he must not divert any more water from the stream than is required by his needs, and that all other waters of the stream must pass to other appropriators who have like rights in their order of priority. This limitation is *read into* the right and the water officer is authorized to shut out from the appropriator's ditch any water in excess of that required for his beneficial use.

The observations of counsel on page 121, to the effect that the riparian laws of Dakota may have some possible bearing upon the rights of Wyoming appropriators, is set aside by the decisions of this court, as well as by reason of the fact that none of the few small appropriations which existed on the Laramie River in Wyoming prior to its admission as a state are in any way here involved, and no possible injury can result thereto by the diversions in Colorado. (See separate portion of brief, "Priority of Appropriation.")

Pollard vs. Hagan, 3 How., 212.

U. S. vs. Rio Grande Irr. Co., 174 U. S., 690.

Gutierrez vs. Albuquerque, 188 U. S., 545.

Kansas vs. Colorado, 206 U. S., 43.

Boquillas Cattle Co. vs. Curtis, 213 U. S., 339.

U. S. Freehold Land & Immigration Co. vs. Gallegos,
1 Legal Adviser, 412.

Snyder vs. Colorado Gold Dredging Co., 181 Fed.,
62, 65, 69.

Kinney on Irrigation (2nd Ed.), Vol. 1, Sec. 593,
pages 1025-9.

The rights here in controversy are not, as at common law, merely an incident to and a part and parcel of lands which, by accident of nature, happen to be fortunate enough to border on the stream. The distinct, exclusive, usufructuary estate acquired by an appropriator is *property of the highest order* which is protected by law as such and subject to all the incidents of property. The property in such a water right consists not alone in the amount of water claimed, but also in the priority which often is its chief value. It has none of the characteristics of personal property. It is real property. It is an inheritable estate and passes to the heirs or devisees. It is conveyed with the same formalities as any other real estate. It is a property right independent in itself, based upon application of the water to beneficial use, and is not subordinate to any land, but exists independent of the ownership of land or of the channel of the water-course.

Kinney on Irrigation (2nd Ed.). Vol. 2, Chap. 41, pp. 1311-43.

And for counsel to now contend that Wyoming may enforce upon Colorado, contrary to her will, the riparian doctrine of return of water to the original stream, is for them to deny the constitution, laws and decisions of their own state, Wyoming, and to declare that the doctrine of appropriation does not there prevail.

The constitution, statutes and decisions of the courts and the quasi-judicial tribunals of Wyoming are in direct conflict with and are sufficient reply to the argument of counsel. If the common law rule of riparian rights obtains in Wyoming, irreparable injury will occur to the best agricultural regions of that section, as well as in Colorado.

(e) *Conclusion.*

We believe sufficient authority appears to justify the following conclusions: That the common law doctrine of riparian rights has been entirely abrogated in the arid region of the United States and that the doctrine of appropriation has been adopted by each of the states therein for intra-state regulation and control of the waters of the streams flowing within the borders of each of said states; that under the doctrine of appropriation, the first appropriator within each such state, obtains an exclusive right to the waters of the stream to the extent required for beneficial use and even to the entire flow thereof if his necessities so require, without regard to the rights of junior appropriators or of persons owning lands riparian to the stream; that in adopting the rule of appropriation, each

of the states abrogated the common law rules of equal rights of all riparian land owners including all right to return of diverted water to supply such equal rights of other riparian owners and that under the doctrine of appropriation diversion may be made whithersoever necessity may require for the irrigation of lands wherever situate, whether within or without the drainage area of the stream, and that this doctrine applies within each of the states of Wyoming and Colorado.

PART II.

PRIORITY OF APPROPRIATION.

DISCUSSION OF THIS GENERAL SUBJECT WILL BE
SUBDIVIDED AS FOLLOWS:

I. OPENING STATEMENT

- (1) METHODS OF INITIATING APPROPRIATIONS:

In Colorado

In Wyoming

II. PRIORITY A QUESTION OF FACT

III. COLORADO APPROPRIATIONS

- (1) MEADOW DITCHES
- (2) SKYLINE DIVERSION
- (3) SAND CREEK DIVERSION
- (4) GREELEY-POUDRE APPROPRIATION
 - (a) *The Region*
 - (b) *Progress, August 25, 1902, to April, 1908*
1902-4 inclusive
1905-6 "
1907—April, 1908
 - (c) *April, 1908—Sept. 8, 1909*
Sept. 8, 1909-1913, inclusive
- (5) ERRORS IN PLAINTIFF'S BRIEF
 - (a) *Erroneous Priority Assumption*
 - (b) *Erroneous Assumption in re Upper*
Rauah Ditch

IV. WYOMING APPROPRIATIONS

- (1) THE REGION
- (2) ADVANCE FINDINGS AND DETERMINATION OF QUESTION OF PRIORITY AND WATER SUPPLY IN WYOMING
- (3) PRIORITY GROUPS AND NATURAL CLASSIFICATIONS
 - (a) *Meadow Ditches*
 - (b) *Laramie Plains Appropriations*
 - (b-1) Appropriations prior to Aug. 25, 1902
 - (x) River Bottom Canal
 - (y) Early Benchland Canals

- (b-2) Appropriations subsequent to Aug. 25, 1902
 - (m) Sodergreen Highline
 - (n) Lake James System
 - (o) Laramie Water Company or Lake Hattie System
 - (p) N. W. Land and Iron Company
 - (c) *Appropriations East of Laramie Mountains*
 - (c-1) Wheatland
 - (x) Original Project
 - (y) New Projects
 - (y-1) Bordeaux Tract
 - (y-2) Sybille Tract
 - (d) *Recapitulation of all Wyoming new Appropriations since 1902*
- (4) PLAINTIFF'S ERRONEOUS ASSUMPTION
- (a) *Plaintiff's Exhibit G*
 - (b) *The Mythical Pioneer Highline*
 - (b-1) No such canal ever constructed and no connection between recent permitted surveys and other reconnaissances
 - (b-2 and 3) No claims of appropriation for any such canal ever filed with State Engineer of Wyoming or made before Board of Control or District Court at adjudication of priorities on Laramie River
 - (b-4) Permit No. 2719 Enl. filed July 11, 1912, limits claims and bars assertions of any prior claims
 - (b-5) Conclusion
 - (c) *Other Errors*

V. GENERAL CONCLUSION

VI. WYOMING'S DISREGARD OF COLORADO PRIORITIES

I. OPENING STATEMENT.

While either Colorado or Wyoming may at any time otherwise legislate, for the present they have both adopted what is known as the "Colorado doctrine" (as distinguished from the "California doctrine") of appropriation for intra-state regulation of diversions and use of water from the streams within their respective boundaries. While this doctrine at present applies to distribution of water *within* the borders of each state, we contend that it does not apply to the use and distribution of water between the states for the following reasons:

The sovereignty of each state is in all respects equal with that of the other and with any of the original thirteen states of the United States;

Each state has full jurisdiction over the lands within its borders, including the beds of streams and other waters;

Either state may change its doctrine in any manner, to any degree and as frequently as it may desire. Either may adopt the riparian doctrine tomorrow, a mixed doctrine, such as prevails in California, on the day following, and again another and a still different doctrine, without the slightest regard to the neighboring commonwealth;

Neither state has a right to impose her present or any future adopted doctrine upon her neighboring state;

The fact that the two states happen at the present time to recognize the same doctrine does not amount to extra-territorial recognition by the other state;

Distribution of water by priority of appropriation upon interstate streams, regardless of state boundaries, would involve the interference with property of citizens of one state by officials of another state and contravention of the sovereign rights of both, and would do violence to the rule of equality of states.

The doctrine is impossible of administration. While the officers of each state have full authority and control of the distribution of water according to decreed rights within the state, the restriction of use to necessities of the user, the prevention of waste, the substitution or exchange of water between appropriators or between reservoirs and ditches or vice versa and the execution of the many duties essential to obtain the maximum beneficial use of the limited available quantity of water, nevertheless this authority and jurisdiction ceases at the state line. Colorado has no jurisdiction in Wyoming and Wyoming none in Colorado. Neither state can impose its will upon the other. Who then is to administer the distribution of the waters between the states? No state or federal official has such power. Furthermore, the performance of such duties would of necessity supersede the authorities of each commonwealth and in turn each state would lose entire control over the distribution of all interstate

and tributary waters within its borders and in case of states situated as either Colorado or Wyoming, with waters almost wholly interstate, entire control would be lost over all the streams. The laws of either state would cease to operate. Her statutes would become mere mockery. Another doctrine than that of her choosing would be forced upon her without right of change or amendment and her rights as a sovereign would become mere fiction.

The doctrine is impossible of administration for a further reason, that in no two localities or states along an interstate stream are the conditions the same, and an interstate stream passing through several states under several jurisdictions and under varied conditions must needs be regulated by different rules along its course.

The Colorado River rising in Colorado and Utah, flows more or less through six different states from its various sources to the sea. Through portions of the United States separated by mountain chains and natural obstacles, it traverses in excess of one thousand miles by meander. What human mind is capable of properly distributing its water according to priority among the appropriators of the six different states and at the same time limiting each right to its purely beneficial use without waste, making exchange between appropriators and generally conducting the administration of the distribution of this water throughout the great areas and over the great mountain chains covered by this interstate stream?

The application of the doctrine would subject the states and their development to chance or accident and make the fate of each commonwealth a lottery irrevocable. To illustrate: the gold excitement happened to cause the regions nearest the Rocky Mountains to first develop the use of water for irrigation. The Great Plains, sloping easterly from these mountains and constituting a considerable portion of both Wyoming and Colorado, are extremely arid and require irrigation to sustain life and agriculture. By chance alone this earlier irrigation occurred in the regions adjacent to the mining districts. It needs but a glance to determine what would have been the fate of either Wyoming or Colorado, under application of the doctrine, had no minerals been early discovered in the Rocky Mountains and had the agricultural development, following lines of natural opportunity, advanced gradually westward from the humid to the semi-arid, from the semi-arid to the arid regions, absorbing and appropriating the water from the stream with the trend of progress. In such event, either of the litigant states would have been forever deprived of even the smallest use of her streams, and would have been doomed to eternal aridity where now thriving communities support local, state and national governments.

To use another illustration: the lands in one state are withheld from settlement by forest reserve, Indian reservation, or some other cause, and remain undeveloped for a long period, during which the waters of the streams arising within that state, necessary to reclaim these lands, are all appropriated in a neighboring state where development has progressed during the time the lands in the other state were withheld. When the obstacles are removed, the state of origin of the water would find herself forever barred from the use of the water of her streams in the development of her lands which must forever lie arid while she perpetually gives to the foreign state, without return, the water necessary for the development of her own area. While, as between citizens dwelling *within* these states, necessity has compelled the adoption of the doctrine of right by priority of appropriation, on the other hand, necessity likewise forbids the leaving of future development of states to chance of first appropriation, and to so permit a foreign state to forever prevent any development within the state of origin of the very water upon which the lower state fattens, would be contrary to the law of nations, and were it not for the Constitution, would be sufficient cause for the upper state to sustain her own existence and the right to use at least an equitable portion of the waters within her borders by force of arms, arbitration or other adjustment with her neighbor.

Each state is entitled to administer her water as she may elect, regardless of any other state, or, at least, is entitled to the use and benefit of an equitable portion of the waters of her interstate streams. Any other doctrines do violence to the inherent right of the commonwealth to develop her own territory, use her own natural resources, and sustain and protect her people on a basis of equality with every other state of the Union. What is an equitable portion of the water of an interstate stream must ever depend upon the facts and circumstances of each case and cannot perforce be determined by the lottery of first settlement and appropriation.

Notwithstanding what we have said, priority is an issue joined in this case, and to meet that issue considerable evidence was introduced, not so much by the plaintiff to sustain the issue, in which we believe it signally failed, as by the defendants to forever conclude any possible contention. While we contend that the doctrine of priority of appropriation has no place in this action between sovereign states, nevertheless, out of ample caution and with a desire that the case may be fully and fairly presented, we shall discuss at length the various diversions from the Laramie River in both states.

(1) *Methods of Initiating Appropriation.*

While right by priority of appropriation at present prevails in both Colorado and Wyoming, the methods by which these appropriations are initiated, perfected and finally approved, are essentially different in the two jurisdictions. (3348-52.)

In Colorado: The water right is initiated by the first act which leads ultimately to beneficial use. This may begin with survey or actual construction. The appropriator may make a filing with the State Engineer (formerly with the county clerk and recorder) for the purpose of giving notice of the intended appropriation and preserving a record of his enterprise, or he may omit to make the filing and prove his priority by other methods. The appropriation is fixed, both in date of priority and amount, entirely by the district courts under procedure prescribed by statute, and all decrees limit the right of diversion to beneficial use and prohibit waste and excessive diversion. Priorities of appropriation are determined in Colorado exclusively by the courts and not by quasi-judicial officers. No permit to divert water is necessary, each appropriator having the right to go upon the stream and construct his diversion system in manner and extent as he may desire and without previous sanction or adjudication by any official.

In Wyoming: An appropriation is initiated by the filing of an application for a permit. This is a prerequisite before commencing construction, enlargement or extension of any ditch or diversion system or performing any work in connection therewith. The State Engineer endorses on the application the date of its receipt and notes the same in the records of his office. If, in due form, he then determines (1) whether or not the proposed diversion and beneficial use will impair *existing rights*, and (2) whether there is *unappropriated water* in the stream to supply the proposed enterprise. If, upon his quasi-judicial determination, it is found that there is no unappropriated water, or where the proposed use conflicts with existing rights or threatens to prove detrimental to public interest, he has power to reject the application and the appropriator is forbidden to proceed with the construction of the enterprise.

If, however, the State Engineer officially determines that there is *unappropriated water* in the stream from which the proposed diversion is to be made, he grants a permit for the construction of the enterprise upon such conditions and limitations as he may impose, whereupon the appropriator may proceed to construction in conformity with the application and the limitations imposed by the State Engineer and not otherwise. The application is accompanied by maps and plats showing accurately the extent and location of the proposed work.

and the rights of the appropriator are defined by the application and the permit.

The priority of each Wyoming appropriation dates from the filing of the application in the engineer's office.

The permit authorizes the diversion of water whereby the appropriator makes his beneficial use. His rights are finally adjudicated and decreed by the Board of Control, consisting of the State Engineer and the various superintendents of the water divisions of the State. The findings and determinations of this Board of Control in Wyoming are similar in legal effect to the decrees of the district courts in Colorado. An appeal lies from the decree of the Board of Control to the District and Supreme Courts.

The limitations imposed in the permit and in the final decree define the priority and extent of the appropriation. There can be no greater appropriation in Wyoming than those fixed by each permit and decree.

The State Engineer of Colorado has no judicial or quasi-judicial powers such as are vested in the State Engineer of Wyoming. In Colorado the appropriator constructs his ditch and makes his appropriation without previous permission. In Wyoming he must have the permit from the state. In Colorado the appropriation dates with the beginning of work or survey and is completed by application of the water to beneficial use, and the District Court simply confirms and quiets by decree the rights of the appropriator as the facts may warrant. In Wyoming, beneficial use is a prerequisite to the final decree by the Board of Control and the right relates back to the date of the filing of the application for permit and the appropriation is, in effect, granted its priority in advance.

In Colorado the appropriator determines for himself the question of available water supply. In Wyoming this fact is determined in advance by the State Engineer.

II. PRIORITY QUESTION OF FACT.

Priority of appropriation is, of necessity, a question of fact settled within each state by courts or tribunals having jurisdiction so to do: (1) In Colorado by the district courts and (2) in Wyoming by the state engineer in filing and passing upon the application for permit and subsequently by the Board of Control in granting final certificate or decree.

The statutes of each state control relation of the priority to some initial date, in Colorado to the date of the beginning of the first work (survey or construction), and in Wyoming to the filing of the application for permit with the state engineer.

The priority of the enterprise on completion and applica-

tion of water to beneficial use, reasonable diligence having been used, relates back to the initial date. What constitutes reasonable diligence is likewise a question of fact depending upon the circumstances connected with each particular case. (Kinney on Irrigation, Vol. 2, page 1278.) The whole subject of priority being largely a question of fact, it is necessary to review the evidence at considerable length in arriving at the relative rights of the private appropriators taking water from the Laramie River within the two litigant states. Consideration of the subject is tedious and repetition is frequently necessary. We shall omit small diversions or those earlier diversions whose rights, it is evident, are in no wise materially involved, or shall pass them with brief notice. The material diversions will be considered by states.

We shall consider (III) diversions and use of water from the Big Laramie River in Colorado, the state of origin of that branch of the general stream, and (IV) diversions from the Laramie River as it flows through Wyoming.

III. COLORADO APPROPRIATIONS.

In considering diversions and use by Colorado and her citizens (all within her territory), we will speak of (1) diversions and use on the limited area along the narrow valley of the Big Laramie as it rises and flows through Colorado, (2 and 3) inter-watershed diversions made long prior to the Greeley-Poudre enterprise for irrigation of lands now in a high state of cultivation in Colorado, and (4) the Greeley-Poudre enterprise.

(1) Meadow Ditches.

There are numerous small appropriations along the narrow valley of the Big Laramie River in Colorado. These are used exclusively for the irrigation of narrow strips of meadow, aggregating but 4,250 acres (3458), and from which the water returns rapidly to the stream. The same is true on the upper reaches of the Little Laramie in Wyoming, and throughout this case these diversions at the head-waters of these two branches of the stream have been treated by all the experts as off-setting one another and as unworthy of serious consideration in this case (1271, 1274, 3458, 3460-1, 3463-5). These minor appropriations will be omitted.

(2) Sky Line Diversion.

In 1891 the Sky Line Canal of the Water Supply & Storage Company was initiated, diverting water from the head waters

of the Big Laramie in Colorado across the Green Mountains and over into the Cache la Poudre River for use in the irrigation of lands immediately adjacent to and in all respects similar to the lands of the Greeley-Poudre Irrigation District herein-after mentioned.

(3) *Sand Creek Diversion.*

Subsequently, but long prior to any project here in controversy, the Divide Canal and Wilson Supply Ditch, working in combination as one system, were constructed for the diversion of water from the upper reaches of Deadman Creek over into Sand Creek, both rising and flowing in Colorado, and thereafter for re-diversion from Sand Creek into Sheep Creek, a tributary of the Cache la Poudre River, for use upon lands immediately adjacent to those served by water diverted from the Laramie River by the Sky Line Canal of The Water Supply & Storage Company.

(4) *Greeley-Poudre Appropriation.*

August 25, 1902, the Laramie River portion of the enterprise of the Greeley-Poudre Irrigation District was initiated. It consists of a tunnel through the Green Mountains from the Big Laramie to the Cache la Poudre (herein described as the "Greeley-Poudre" tunnel) and a system of diversion and collection ditches and reservoirs on the Laramie River for storing and conveying water to the tunnel (1935, 2039, 3933, Exhibit 179—Decree District Court Larimer County). There is one diversion and collection ditch on the east side of the Laramie valley known as the "East Side Collection Ditch," and two such canals on the west side of the valley, one high up at timberline, known as the "Upper Rawah" or "Rawah" Ditch, and the other lower down in the valley and known as the "Lower Rawah" or "West Side Collection" Ditch.

Actual survey of the enterprise did not begin until August 25, 1902, although there had been previous preliminary reconnaissance (1933-5, 2039). Priority as of this date is asserted and has been awarded the project by the District Court of Larimer County, Colorado, in its decree entered in adjudication proceedings for the water district including that portion of the Laramie River in Colorado (Ex. 179, 3933).

In discussing the system, we will subdivide the subject as follows:

(a) The region in which the construction has proceeded and the natural and other obstacles necessarily encountered;

(b) The initial acts upon which the priorities of the enterprise were established and the subsequent progress down

to March and April, 1908, when the large, new and junior projects in Wyoming were initiated (in whose behalf this suit is brought); and,

(c) Progress subsequent to April, 1908.

(a) *The Region.*

The Laramie River portion of the enterprise is situate in a remote, inaccessible, heavily timbered mountain region, nearly at timberline, amid perpetual snow, where winter prevails the greater portion of the year (1894), and work is limited to a very short period during each summer season (792-6). Remoteness from railroad centers necessitates wagon freighting of labor, supplies and machinery from 70 to 100 miles through the mountains. Progress is slow and very expensive under such conditions and years are required to construct the same character of works that could be completed in months upon the plains. Construction is largely in solid rock and its cost is several times that of similar work in plains regions (792-6, 1404-5, 1619-20, 1754-6, 1777-9, 1895-8, 1912, 1920-3, 2076-8, 2239-40).

One of the Wyoming engineers describing similar work, more favorably situate, at the head waters of the Little Laramie River, says:

"The period for favorable construction work at that altitude is between June 1 and November 1. Prior to June 1 there is too much snow and the ground is water-logged and a spring is under every rock, and in September the winter snows begin. * * * Work then ceases. * * * We had innumerable difficulties in connection with that work. In addition to the climatic conditions that have to be contended with, the country is hard of access at any time of the year. Practically no roads can be traveled with an ordinary load and team of horses. * * * Comparing this work with a similar construction and excavation of material in an open country if the same kind of construction that is on Douglas Creek was done within five miles of the City of Laramie, it would require about one-fourth the time." (792-3.)

This is the statement of the engineer for the Laramie Water Company, in charge of construction of the Douglas Creek inter-watershed diversion in Wyoming where the waters of that stream are to be conveyed across the divide and into the head waters of the Little Laramie as a part of the Lake Hattie system, which we will hereafter consider. A reference to his testimony will show that this work is only six miles, while the Gree-

ley-Poudre is more than seventy miles, from the nearest railroad point.

The Colorado witnesses, in the references given, state, in part, as follows:

Professor Carpenter says:

"The most difficult and expensive development undertaken is probably in the class of trans-mountain diversions. Here it is necessary to build canals in regions remote from labor, materials and markets, through comparatively unoccupied territory and over lines where a large part of the work is through rock and along steep hillsides, where seasons suitable for construction of canals are short and labor hard to obtain, where the substantial construction is necessary and where the utmost care must be exercised in the selection of the route and the performance of the work. The ice and snow conditions of winter must be provided for and guarded against and tunnels of greater or less extent are generally necessary.

The Greeley-Poudre District has about 20 miles of collecting ditches along steep hillsides, largely in rock, and the construction of the Greeley-Poudre tunnel $2\frac{1}{2}$ miles in length, required the transportation of labor and materials by men and teams for a distance of about 78 miles from Laramie, Tie Siding or Fort Collins. It was an engineering feat worthy of the attention of the best engineering talent and required the expenditure of a large amount of money and time.

While the time consumed in the actual construction of the tunnel was not great, its location and necessary preliminary examination of almost the entire mountain region to determine the probable water supply and the raising of capital, necessarily consumed a number of years." (1404-5.)

John R. Wortham, engineer, says:

"Surveying and construction in that region is limited to a short period during the summer season. The season is very short * * * and it is impossible to haul supplies in there during any but the summer months. * * * After that the snows come in very heavy and it is impossible to get supplies in there in order to carry on construction work. * * * Supplies have to be hauled from the railroad points on wagons * * * about 80 miles from Fort Collins or Laramie, Wyoming." (1619.)

Charles R. Hedke, formerly construction engineer for the enterprise, said:

"* * * Laramie River system is in a region inaccessible; supplies, etc., must be hauled by wagon. Material encountered is of character much harder to work than upon plains and cost is many times more, and from the nature of things surrounding that class of construction, it is impossible to do that work in anywhere near the same time that similar work is done down on the plains.

Shortness of working season in mountains creates an obstacle in the way of speedy construction. The character and class of workmen required usually employed on such work must be found and there is much loss of time in beginning of each season's work on such construction. Working season closes early in fall. That necessitates entire abandonment of forces when work is shut down and reorganization in the spring.

* * * *To compare a mile of mountain ditch with a mile of similar canal in the plains district by difference in cost, a ditch of the same capacity on the plains as our mountain ditches would cost in the neighborhood of \$1,000 per mile. Up in the mountains it would cost \$30,000 per mile and a mile of plains ditch can be built in a matter of several weeks, while a mile in the mountains may take a year, requiring nearly all the men you can get on that mile to construct it in one season's work.*

Work can be carried on throughout the entire year on the plains. Mountain construction entails a certain knowledge of handling that class of material, requiring powder and drilling, and consequently a class of men that are more experienced and expert. Ordinary labor obtained for driving teams on plains ditch construction is impractical on mountain construction. * * * The Sky Line Ditch was contemplated and under construction for several years and has been under reconstruction almost continually since, covering a period from 1890 to the present time." (1777.)

"Cost of transportation of materials from supply station at base of mountain on the Laramie River to the Upper Rawah Ditch was as great as cost of transportation of material from Fort Collins or Laramie to this supply station. The distance in the first instance is seven miles, while in the latter it is 65 or 70 miles. The principal reason * * * is the grades to overcome, the difference in elevation being about 2,000 feet in three

or four miles and requiring six horses for hauling a ton of material.

We had a fixed wagon freight rate from Fort Collins and Laramie to the supply station on Laramie River. * * * The rate was \$1.10 per 100 lbs. to that point with \$1.00 per hundred from there on to the construction camp at the Upper Rawah Ditch.

Fort Collins, Colorado, and Laramie, Wyoming, were nearest railroad stations.

Laborers were taken up at the same rate as freight; they were weighed and hauled by weight." (1756-7).

The comparison between the Greeley-Poudre work and the mountain work on the headwaters of the Little Laramie on the inter-mountain water diversion of The Laramie Water Company in Wyoming, the difficulties encountered in the construction of which are described by Engineer Bishop, from whom we just quoted, is easily ascertained by comparison of the wagon freight rates. On the Greeley-Poudre system the rate was from \$1.15 to \$2.15 per cwt. from railroad to works, on the Wyoming canal it was only 25 cents per cwt. from railroad to works. (792.)

Zac T. Duvall, a veteran construction engineer who made complete surveys of the tunnel, ditches and reservoirs in 1904, says:

"I have had considerable experience with mountain construction over a long period of years. This class of construction requires much more time than it would if located on the plains and is much more expensive. The comparison is quite startling. * * * Cost of construction increases with increase of elevation in this mountain work. The working seasons shorten as the elevation increases. * * * On the Upper Rawah Ditch we could only work from July 1 to October 10 in 1904. Even during that time work was not as convenient or easy of accomplishment as similar work involving similar materials would have been on plains region, because of elevation, expense of getting material in and climatic conditions. * * * It is very difficult to keep men in the fall on work of that kind situate as high as it is. Even during summer months it is not as easy to keep them as it is on other work.

Organization of a working force on mountain work, followed by necessary abandonment and necessary reorganization the next season interposes an obstacle to rapid construction. It is almost impossible to retain men in

the late months. * * * Early winters in these high regions usually bring about a spirit of discontent." (1895-7).

Wallis A. Link, one of the originators of the Greeley-Poudre enterprise and long a resident of the vicinity of the Laramie River portion of that system, says:

"On account of elevation of country, snowfall is very heavy. It comes early in the fall and goes off late in the spring. You cannot work profitably * * * before July 1. * * * The time you would have to cease construction in the fall is very uncertain. Have seen it cease in September, and in September of 1890 or 1891, snow was so deep four horses could not haul empty wagon." (1920-1.)

"From 90 to 120 days is the limit of the working season, depending upon the snow fall in the fall of the year and the lateness of the spring. It is possible to work throughout the entire year on the plains." (2077.)

In this region the Laramie River portion of the Greeley-Poudre enterprise is in process of completion. The comparisons drawn between the obstacles and required time of construction under such conditions and in plains districts should be borne in mind when considering the more recent construction upon the Laramie Plains, particularly the Lake Hattie enterprise of The Laramie Water Company and the James Lake project, in whose behalf this suit is prosecuted.

In these plains projects, as we shall observe, none of the obstacles encountered in mountain construction at high altitudes need be overcome and construction proceeds along lines of least natural resistance.

While that part of the Greeley-Poudre system situate within the Cache la Poudre drainage is as essentially a part of the whole enterprise as is the Laramie River portion, and while work within either drainage is, in effect, work upon the whole system, and runs to the benefit of every portion thereof (Hedke, 1748), nevertheless, to enter upon a detailed discussion of the history of the Cache la Poudre portion of the system would unnecessarily encumber the argument and will be avoided except where necessary to answer the brief of plaintiff.

(b) Progress August 25, 1902, to April, 1908.

1902-4 Inclusive.

August 25, 1902, engineer Frank Beach began the first actual surveys on the project, as distinguished from previous

reconnaissances. These surveys started upon that unit of the system now known as the Upper Rawah Ditch. The relation of this ditch to the tunnel and entire enterprise will be considered in detail in a separate portion of the brief. These surveys continued until winter snow prevented further work. (1933, 1938-9, 2039.)

During the year 1903, as soon as natural conditions would permit, construction of roads for transportation of men, supplies and machinery to the theretofore inaccessible regions, in which the project was to be constructed, was opened and prosecuted throughout the entire working season and until the party was driven out by deep snow (1942-5, 2042-3). During the winter months of both 1902-3 the efforts of those engaged in construction of the enterprise were continuous in its behalf (1941, 1946-7, 2043-5.)

March 17, 1904, engineer R. Q. Tenney and party from Fort Collins ran the first survey of the Greeley-Poudre tunnel, and a reservoir near the west portal thereof, and made filings of the survey in the office of the State Engineer of Colorado. (1882, 1947-50, 2045-6, Defts.' Ex. 75, map.)

Early in that season a large engineering party went into the field to establish, as nearly as then possible, the final lines of the tunnel and the remainder of the system, and during that summer, after the roads were completed, excavation and open construction upon the ditch lines began with a full force of men, teams and equipment. Engineering and other construction was prosecuted with great activity from the opening of the season to the close thereof in October. (1877-97, 1947-60, 2046-51 and exhibits.)

The engineering work of 1904, after May 22nd, was in charge of Zac T. Duvall, a skilled irrigation engineer of wide experience. He was assisted by engineer R. Q. Tenney of Fort Collins and a full engineering corps. This party was engaged continuously from May 22 to October 10, 1904, and during that time the entire system was definitely surveyed and located. (1882-92).

Mr. Duvall thereafter made a filing map, showing his surveys, which was placed of record in the office of the State Engineer. (1891, Defts' Ex. 51). This filing included final surveys of the line of the Upper Rawah Ditch and Link Lake Reservoirs preliminarily surveyed by Engineer Beach in 1902 and the tunnel line surveyed by Engineer Tenney in March, 1904, as well as the units of the system completely surveyed by Mr. Duvall.

Construction in 1904, other than engineering, commenced with further road building. This continued until along in

July. (1886, 1892.) Of this road construction in 1903 and 1904, Mr. Duvall says:

"Construction of highways in such regions is a necessary prerequisite to excavation work on ditches. *Road construction in such cases compares with the necessity of road construction in mining enterprises.*" (1886.)

"These two roads were necessary before construction could begin on this system. They were necessary prior to permanent survey work done by me, although connections of the two roads were not made until later. In making my survey I had to use pack animals to complete the upper line. I made use of the roads up to the ditch line. * * * Prior to construction of these roads, supplies could be brought to this line only by pack animals from the Skyline ditch. That is not a practical method of transporting machinery, supplies and men." (1892-3.)

"Prior to July 4, we had also constructed a road from the camp at the head of the Skyline ditch to the lower end of the Upper Rawah ditch. On that road we raised 1,000 feet in elevation in about a mile and a half." (1888.)

The first canal construction on the system took place prior to June 10, 1904. Mr. Duvall says of this:

"In addition to locating the inlet ditch from the west fork to the west portal of the tunnel, I *constructed* about 500 or 600 feet of *canal* from the creek and turned water in from the west fork of the Laramie River July 10, 1904.

That was the first actual excavation work on any part of the Laramie River system. Water ran through that portion of the inlet ditch which we constructed from the west fork. In constructing this portion of the ditch, I went to the outlet end of the Upper Rawah ditch and commenced permanent construction of that ditch to Rapid Creek, so that the right of way could be cleared for excavation." (1885.)

At this point let it be observed that the tunnel, later constructed and completed for the Greeley-Poudre Irrigation District, and concerning which this controversy has arisen, was upon the line selected and staked during the spring of 1904 by engineers R. Q. Tenney and Zac T. Duvall. This line is indicated on the maps, Defendants' Exhibits 51 and 75. As already noted, the first canal excavation for the entire Laramie River

system was the construction of a portion of the canal to convey water from the Laramie River to the west portal of this tunnel prior to June 10, 1904. (1885, 1898-9.)

Of the work on the Upper Rawah Ditch, being the higher collection ditch of the system, Mr. Duvall says:

"We were able to get up to the lower end of this Upper Rawah Ditch to start our surveys July 4, 1904. We could not get up there earlier on account of the snow at the head of Fall Creek and Rapid Creek. Snow was deep and we could not do anything." (1886.)

The work prior to July 4, 1904, is described by Mr. Duvall. He says in part:

"Crews of men had been working on the Laramie River system before I went there in 1904. A road was made from the mouth of the west fork up to the Skyline ditch, our first camp. That road was necessary as all our supplies came in that way. * * *

When I arrived on Laramie River in May, 1904, the road had been constructed up to the Skyline ditch. Between June and July, 1904, I commenced work on the lower collection ditches. I commenced on the east side of the tunnel. * * * Prior to July 4 I had also constructed a road from the camp at the head of Skyline Ditch to the lower end of Upper Rawah Ditch. * * * We also constructed a log house at the head of the Skyline and Camp No. 1."

Mr. Duvall further describes the work during 1904 at considerable length. (1882-1906, 513-19 Abstract.)

He says in part:

"Was engaged with my engineering party in engineering work on Upper Rawah Ditch during summer of 1904, from July 4 to August. Immediately after engineering, Wallis A. Link proceeded to clear right of way and blow out stumps. He had a force of men and teams. We afterwards let a contract to Walthall & Ianson to commence excavation. * * * They had the contract for excavation of 9,750 feet of work. * * * Earthwork and solid rock. * * * All rocks measuring a cubic yard and all rock in place were rated as solid rock.

Mr. Link continued clearing right-of-way and as he cleared I re-located line and put in slope or cross-section stakes. Mr. Link worked rest of summer clearing right-of-way with a force of men and teams. Snow on October 10 stopped him, although he remained a short time after-

wards. I left October 10. I finished my engineering work on this ditch August 5. Ran the permanent location about seven and a half miles to McIntyre Creek.
* * *

Plaintiff's Exhibit P represents line of ditch thus permanently located by me in 1904. In locating Link Lakes I used Mr. Beach's surveys.

I completed engineering work done by me on two lower collection ditches October 1, 1904. Worked on those ditches during August and September.

Plaintiff's Exhibit P represents work done in 1904. I did not assume to represent any other work done by any other engineer prior to that time. The sentence appearing in statement of claim on Plaintiff's Exhibit P:

'And work was commenced on additional ditches and pipe lines going to make up this entire claim August 6, 1904, etc.,' is the date of completion of survey. I commenced the work actually on May 22, 1904. I don't know how that date occurs in the statement. *The dates I have previously given are correct.* I have refreshed my memory by consulting a diary kept during the work.

Estimated capacity of tunnel I located and designed was 1,000 cubic feet per second. I had full engineering party with me during all this work in my department throughout year 1904. I had the assistance of engineer R. Q. Tenney for a short time and Mr. Norvelle was instrument man and assisted me in mapping.

Activities in construction of ditch line were going on during all the time I was there. Both surveying and actual excavation. The first work was clearing right-of-way before we commenced final location. * * *

Headquarters for work done on Laramie River that year was at Lanning's. Our supplies were brought in by teams to Lanning's place and other teams would * * * bring them up onto the line of work. That was a freight station. An employee was in charge. * * * It is on floor of Laramie Valley.

We had light snow storms pretty nearly all summer in 1904. * * * Snow drifts were lying on ground on line of upper ditch up to August 5. This canal is located in regions where the snow falls the year around. * * * Upper Rawah Ditch is in neighborhood of 1,800 feet higher than west portal of tunnel. * * * (1888-95).

He further says:

"In 1904 and 1905 I ran three tunnel lines; one indicated by tunnel line appearing on Plaintiff's Exhibit P.

One coming out of Laramie River a little west of portal of that tunnel and discharging into Poudre at the same point, and one coming out of Laramie River about a mile and a half north of first portal named and also discharging waters into the Poudre River at the same point.

The one found on Plaintiff's Exhibit P was selected. It is the one on which the present tunnel is located. (1899) * * *

Mr. Link did a small amount of work at the outlet end of the Upper Rawah Ditch and on August 6 had charge of the work of excavating on the north side of Rapid Creek. (1902.)

When we finished the work in 1904 we had a road along the line of the Upper Rawah Ditch clear to the head of the ditch at McIntyre Creek. Work was done to Station 67 from lower end of the ditch about 6,700 feet, although it was not all completed over this portion. The contractor was given credit in two estimates for 8,538 yards excavation." (1903.)

Wallis A. Link and A. I. Akin were the original projectors of the Greeley-Poudre system and the earlier work on the system was under their direction and supervision. Mr. Link, after describing at considerable length the work done in 1902 and 1903 (1932-47), of the work of 1904 says, in part, as follows:

"Left Fort Collins March 9 and arrived there March 12, 1904. We concluded we had better make survey of tunnel so I took team and number of men with R. Q. Tenney, surveyor (1948). We were engaged five or six days surveying. There was a great deal of snow on tops of mountains. It averaged two feet on Laramie Valley from what we call Middle Mountain to tunnel site.

Site surveyed by Tenney is practically same place previously selected by me (1948).

After return of survey party to Fort Collins Mr. Tenney made up notes of his survey and Mr. Hedke was engaged with him figuring out distances and other like work. We were active all along the line in raising money until about April first. From about that date it was decided I had better go back again and take men and do work on reservoir site, which we called East Fork Reservoir and which was intended as equalizing reservoir for tunnel. * * * Mr. Tenney ran fly line from East Fork Reservoir to tunnel * * * March 15, about same time we surveyed line over tunnel. * * * (1949).

I knew Mr. Duvall to be a practical man for mountain ditch construction. * * * His services were secured. * * * I took crew of men up to the territory and left them there and came back and got Mr. Duvall and another man and we went to work surveying and making final survey of tunnel. Men had been working on road up west fork of Laramie River all time I was gone. (1951.)

Survey was carried on throughout entire summer of 1904 during which time the entire mountain system was surveyed.

All surveys of all ditches now in course of construction were completed during summer of 1904. We had to work here and there as the snow would permit.

The line of the tunnel selected by Mr. Duvall was about the same line as selected by Mr. Tenney and myself. The lines might vary a few feet from one another. Other lines were run to ascertain which was best line. (1952.)

During 1904 * * * Considerable money was raised and expended * * * both in surveying and construction. *\$13,000 to \$14,000 was expended in surveying and construction on the Link Lake properties during that summer.*

The Upper Rawah Ditch was also surveyed * * * final line was run and most of its cross-sections. The line finally selected was practically the same line as selected by Beach in 1902. The only difference was the difference of opinions of the two engineers in getting around some obstacle. It was practically the same line described by me before first survey in my first conversation with Mr. Akin. (1954.)

There was a great deal of construction work done in 1904 outside of surveying. All necessary clearing was done from west fork of Laramie River for ditch across to east fork of Laramie River and to tunnel. Considerable of ditch line was plowed and some of it finished so as to turn water into it. The ditch required considerable clearing of timber at this point. Work was done on floor of Laramie Valley nearly level with west portal of tunnel. * * * It was so constructed that water flowing through the lower west side collection ditch as well as from the Upper Rawah Ditch, would be carried across and into the tunnel. First clearing on any part of the project was on East Fork Reservoir and next clearing was on ditch line from west fork to the tunnel. * * * (1954.)

Established construction camps in 1904. We excavated about 6,000 feet of canal on Upper Link Lake

Ditch as we then termed it. * * * This is the same ditch now known as Upper Rawah Ditch. We also cleared about three and one half miles of timber. * * * Necessary to construct road up west fork of Laramie River and over the mountain to meet the south end of the road coming from the north to Grassy Pass in order to construct this upper ditch line. * * * Country up west fork and mountain side is very hard place to build roads. * * * (1956.)

Camp was established and excavation by force of men and teams was commenced on Upper Rawah Ditch about middle of July, 1904. I was in charge of outfit doing work that season. Work was continued until along in October when snow stopped us. Work was continued throughout all weather permitting excavation. Snow got so deep that we could not work. * * * I stayed there longer with five or six men and continued clearing. * * * We did considerable of this work on this ditch with teams. * * * (1957.)

Supplies were hauled in with freight teams hired to transport it to Lanning's cabin. * * * From the cabin I had a four horse team that hauled supplies from the cabin up the mountain to the work. Did not have freighters for provisions all the way up because * * * their horses were not used to that character of work.

*In 1904 in prosecuting excavation and construction work on Upper Rawah Ditch we had 35 men in our camp and contractor Ianson had 18 or 20 men all the time. * * * (1958.) My gang of 35 men were employed all along the line from west fork of Laramie River to Grassy Pass. The work was prosecuted by this force of men and equipment that I have mentioned throughout the entire period of construction in 1904. The work ceased only when the snow got so we could not handle the timber to advantage." (1959.)*

The work by Link and Akin and associates during 1902, 1903 and 1904 is well illustrated by Defendants' Exhibits 52 to 73 inclusive, a series of photographs taken at various times during those three years.

The Exhibits 52 to 55 inclusive show the 1902 party at the time of the early preliminary survey during that year. (1965-7.)

Exhibits 55 to 64 inclusive show the general character of the timber in the mountain country in which the collection ditches of the system are constructed and through which no existing roads or means of travel existed prior to the roads constructed by Link and Akin and associates in 1903 and 1904. (1968-71.)

Exhibit 65 is a photograph showing the first survey of the Greeley-Poudre tunnel March 12, 1904, by R. Q. Tenney. (1972.)

Defendants' Exhibits 66 to 72 inclusive indicate, to a slight degree, the construction taking place on the Upper Rawah Ditch during that year. (1975.)

Mr. Link further says:

"In 1904 about fourteen thousand dollars was expended on construction work and clearing, not including surveys." (1988.)

With reference to filing No. 1722, office of State Engineer of Colorado, which is the same as Defendants' Exhibit 51, witness Link says:

"That is the same filing identified by Mr. Duvall and pertaining to surveys made by him. This map does not pretend to show anything else than the surveys made by Mr. Duvall."

With reference to Defendants' Exhibit 75:

"Filing No. 1417, office of the State Engineer of Colorado, pertained only to Mr. Tenney's survey and especially the tunnel line surveyed by Mr. Tenney during 1904. The map merely attempts to show the lines run by Mr. Tenney." (2029.)

Mr. A. I. Akin, one of the original projectors, after describing the activities of 1902, including the surveys made by Engineer Frank Beach and party commencing August 25, 1902, and terminated by snow (Defendants' Exhibit 74, map by Mr. Beach), (2039-42), and after describing the activities of 1903 consisting largely of necessary road construction and financing (2043-5), refers to the work of 1904 in part as follows:

"May, 1904, Mr. Duvall went to work. Have heard Mr. Duvall's testimony. He covered the situation very fully. I corroborate what he said in that regard. *In 1904 construction work was carried on on Upper Rawah Ditch * * * from west fork to east fork of Laramie River and to tunnel. * * ** Have heard testimony of Mr. Duvall and Mr. Link concerning construction work going on in 1904. They stated the facts in that regard.

About \$20,000 was placed in this enterprise in the construction of the *work in 1904*. No construction work was going on that year on the plains distribution end of the system. * * * (2046-7.) August, 1904, Mr. Link started excavation on Upper Rawah Ditch at lower

end. * * * Ianson & Walthall started work on August 10. I have photographs of work completed during season of 1904 on Upper Rawah Ditch.

Defendants' Exhibit 76 is picture taken about 1,000 feet above lower end of Upper Rawah Ditch where it drops into west fork of Laramie River around the rock point. * * * It shows conditions as they existed that year. I have photographs which, though taken at later date, show conditions at close of work in 1904.

Defendants' Exhibit 77 is photograph of lower end of ditch where it drops into west fork of Laramie River and where Link started to cut in 1904, showing water coming out of end of ditch. Shows conditions as they existed in 1904. (2048.)

Defendants' Exhibit 76 is ditch line where Ianson & Walthall did their work. * * * Shows ditch lines and how it was constructed.

Was with surveying party of Zac T. Duvall during most of season of 1904. *Defendants' Exhibit 51*, known as Duvall's map * * * shows Upper Rawah Ditch * * * East Side and West Side ditches * * * and tunnel line. Mr. Duvall did no engineering work on other units or parts of this system than those shown on *Exhibit 51*. Only difference between Duvall's survey and present West Side Collection Ditch is that it is carried on side of mountain to tunnel instead of crossing river with pipe line.

Diversion system portrayed on three maps, *Exhibits 51* (Duvall map), *74* (Beach map) and *75* (Tenney map) is practically the same system first conceived by Mr. Link and me in our expedition in 1902. Beach survey was preliminary. Tenney survey was also preliminary. Duvall survey was definite location. (2049-50.)

Mr. Duvall was engineer in charge of work of excavation as well as definite location of lines. * * * Harry L. Monroe came into association of individuals interested in project in summer of 1904, just before we started work on Upper Rawah Ditch. He advanced money in connection with starting work. Later severed his connection with firm." (2051.)

"As I recall the amount paid Ianson & Walthall for work on the Upper Rawah Ditch in 1904 was between \$3,700 and \$3,800, this not including the work that Mr. Link performed. These contractors had a contract for 2½ miles on the lower end of the Upper Rawah Ditch, but they did not do all the work. They distributed the work over the whole distance and we completed the work with Japs and Greeks in 1907. Mr. Link worked a gang

of men in 1904 clearing the right-of-way through 2½ or 3 miles of timber and excavating along the ditch line both before and after the contractors did their work. The gang he worked, of about 30 men, was changed back and forth from clearing to excavating from August to October, but I cannot say how much work was done on excavation by that gang. Sometimes we had as many as 50 men, and I believe never less than 25, there being on an average about 30 or 35 working for * * * two months and a half. Part of the time he had four teams upon this work." (2071.)

Mr. Akin, after describing at considerable length the work and expenditure from the beginning down to 1908, says:

"Our work from 1904 to and including 1908 was open and notorious and open to the observation of people both in Colorado and Wyoming. People in Laramie River valley knew of the work 1904 to 1908. We bought supplies, butter, eggs and other like commodities up and down the river. We were freighting from Fort Collins all the time. People were coming and going from Laramie City at the time we were surveying and we had parties visiting at the camps there off and on and watching the work. We bought all our meat supplies on Laramie River." (2064.)

Charles R. Hedke, subsequently construction engineer on the entire Greeley-Poudre project, thus speaks of the 1904 work:

"My first acquaintance with the Greeley-Poudre project of the Laramie valley was in 1904, when there was under consideration the diversion of water from the Laramie River to the Cache la Poudre River by means of a tunnel. The matter was brought to my attention and discussed. Persons working on the project consulted me at that time. * * * My work in 1905 consisted of a general analysis and special detailed survey as a means of applying the waters of the Laramie River to the lands in the Cache la Poudre valley, and also work in connection with the settlements of the contractors and owners of the Laramie River system, upon work done on the Laramie River system in the year 1904, upon the unit of the Greeley-Poudre system now called the Upper Rawah Ditch * * * situated on the west side of the Laramie Valley at an altitude of about 10,500 feet. Work had been done the year previous and the contractors were forced to go out of the country on

account of the snow, and final and complete estimates were not made that year but were completed and made by me in 1905. This required me to go over that work already done in great detail for purpose of estimate. The work performed at that date was of a very good character * * * of mountain ditch construction. Between 4,500 and 5,000 feet of mountain ditch construction had been completed at that time. There was considerable solid rock and loose rock material. * * *

There had been actual construction done before I became associated with the project. * * * Roads were built to the works, clearing had been done to a great extent, necessary preliminary work had been performed. The 1904 work had progressed under the direct supervision of Mr. Zac T. Duvall, an engineer of Denver, Colorado. In 1904 some work had been done by Mr. R. Q. Tenney, of Fort Collins, prior to the time that Mr. Duvall was employed.

In 1905 I found a road constructed from the valley of the Laramie proper, up the west fork to the work outlined and to Rawah Creek, which is a very rough section of the country, and involves a difference in elevation of about 2,000 feet in two or three miles. This was a very heavy piece of road work. There was also a road constructed to the state road to the north of this property. This road was constructed * * * in a southerly direction to the upper end of the Rawah system in the neighborhood of McIntyre Creek and Rawah diversions. It was about seven miles long. The principal obstacle that had been encountered in the construction of that highway was the heavy timber, both green and fallen. Several sections of that road were constructed through a burned timber district that it was required to clear and remove the boulders from the surface, thereby usually permitting a pretty good road to be constructed.

These two roads penetrated a country which in fact had never had even trails previously. It was a country ranging in elevation from 8,500 to 11,000 feet and even higher elevations. It was in the region of perpetual snow and was very wet during the summer time and required many structures of corduroy to make the roads passable over swampy places. *The construction of these roads was an absolute necessity before beginning actual ditch construction*, as there was no other means of getting into the country. It would be impracticable to pack materials, machinery, tools and supplies that would be necessary for the work contemplated in that region.

The region thus penetrated by these roads is one of short working seasons, lasting from July 1st to October 1st out of the year. Sometimes the season is even shorter than that, depending on the snowfall and the character of the spring, which causes heavy thaws and a greater run-off. From October 1st snow storms are frequent and snow gets very deep and it is impracticable and impossible to do any such work. The canal is very close to timber line. The region above the line of this canal has peaks above an elevation of 13,000 feet.

I found the first work upon this system and in this inaccessible region performed. There had also been considerable surveying, clearing and other work done on the system preceding that time.

In 1905 I found then surveyed and in process of construction the system of works afterwards constructed. *It was substantially the system as it exists today*, that is, the main features are the same. The details had been worked out in somewhat different lines and some changes of a slight character have been made, but in the main the system is the same.

I found the tunnel line located and surveyed.

The final line of the tunnel was placed on exactly the same line that I found surveyed in 1905, after all possible other considerations had later been taken into account. That was the line of the Duvall and Tenney surveys. The collection ditches of the present system were substantially outlined at that time, minor changes, due mostly to the size and character of the enterprise and the existing conditions, and also brought about by a better class of construction than originally contemplated, had been made.

The system as a whole is the same for all practical purposes. As an example of the slight departures made I will state that the system of collection ditches on the west side was designed to carry water on that slope from the drainage area, and on account of the physical obstacles it was then proposed to take water across the valley in a pipe line. These difficulties were great cliffs of rock. * * * I discarded the idea of the siphon line and substituted tunnels on the ditch. * * * These changes made no difference on diversion of water and the object was just the same." (1743-8.)

The testimony of witnesses Zac T. Duvall (1874-1906), Wallis A. Link (1907-2038) and A. L. Akin (2038-78) gives a complete history of the enterprise for the years 1902, 1903 and 1904. Their testimony is not contradicted. The first two of

these witnesses had severed their interests with the enterprise long prior to this suit.

It will be observed that commencing with August 25, 1902, work was continuous throughout the remainder of that year and the open seasons of 1903 and 1904. Also that this work was open and notorious; that the people all up and down the Laramie Valley were fully aware of what was going on; that wagon freighters were passing to and from the far distant railroad stations hauling men, supplies and machinery; that visitors from Laramie, Wyoming, were frequently at the construction camps and stood by watching the work; and that in the construction large crews of men were engaged in large part in rock excavation requiring the use of powerful explosives, the reports of which could be heard for miles.

That all this was well known to the citizens of Wyoming is not denied or disputed. Here was not a mere fiction,—a mere reconnaissance coupled with a possibility that some succeeding generation might construct an enterprise,—but on the contrary, a direct, positive, open and notorious demonstration. Continuity of surveys was coupled with open construction involving expenditure of large sums of money, and all was directed toward the one common objective of conveying the water through the tunnel from the Laramie into the Cache la Poudre. The first excavation upon the ditch leading from the Laramie River to the west portal of this tunnel was a physical demonstration and proof of the intent of the parties. It was upon to the observation and access of all those who visited the region and became at once a matter of public knowledge.

Subsequent to 1904, work continued with equal diligence upon the project as a whole. The works necessary to divert, carry and distribute water to the lands in the Cache la Poudre valley are as necessary as the Laramie River diversion system. Hence activities alternated more or less from the mountain or Laramie River portion of the system to the plains or Cache la Poudre portion of the system from year to year thereafter.

Mr. Hedke says:

"It was on the same general project, in fact, it was the lower end of the same project, the distribution end. *Diversion without distribution would be of absolutely no avail.* The plains work was only a portion of the same project, one is as essential as the other." (1749.)

He further says:

"*Work was always going on somewhere in connection with the project, it never ceased. It was continuous.*" (1749.)

1905-6 inclusive.

A knowledge of the work upon the system in the years 1905 and 1906 is best obtained by reading in full the testimony of the witnesses Link and Akin, already referred to, and also that of engineer Charles R. Hedke (1723-1873), who became acquainted with the project while acting as consulting engineer in March, 1904, at the time Mr. Tenney ran the first survey of the Greeley-Poudre tunnel and was actively engaged as engineer on the project in the early part of 1905. The years 1905 and 1906 were largely devoted to extensive surveys and definite location of works for the distribution and application of the water of the system to lands in the Cache la Poudre valley. (1748-9, 1751-2, 1961-3, 2051.) Employees were also on the Laramie River working upon that portion of the project. (1753, 1964.) In 1906 Wallis A. Link disposed of his interest in the project. (1965.) During these years surveys were also made to verify the wisdom of building the long Greeley-Poudre tunnel. (1753, 1760-3.)

The testimony of Charles R. Hedke with relation to these two years is quite complete and corroborated by the other two witnesses:

"They had a supply of water and the general plan of working out that problem of supply and a general, natural and inevitable place to put that water. The problem was the connecting up of the two ends of an irrigation system, viz., supply and use. In this particular instance, in a highly developed country with many previous enterprises, it resulted in the problem of gathering many enterprises having the same general end into one large enterprise.

The area possible to irrigate, when this enterprise was originated, was much larger than that now embraced. There is much more available land than is included within the Greeley-Poudre Irrigation District. It was natural to investigate and get all the water possible, including rights initiated, on the Cache la Poudre and those initiated and carried out on the Laramie River and all their constructions and extensions." (1818.)

"The work I did in 1905 * * * was the investigation of the distribution end of the system and of the plans and examination of the work performed in 1904 in the mountains, which I went over in order to make a settlement of the contract for that work * * * which was on the Upper Rawah Ditch under the direction of Mr. Duvall. (1792.)

My work of 1905 consisted of a general analysis and special detailed surveys as a means of applying the water

from the Laramie River to lands in the Cache la Poudre valley. (1743.)

In 1905 I found then surveyed and in process of construction the system of works afterwards constructed. It was substantially the system as it exists today, that is, the main features are the same. (1746.) During 1905 the company was preparing itself for the expensive financing necessary to develop this project and such work was performed as could be done with the means at hand. (1749.) The major portion of my time in 1905 was spent on this enterprise on the plains. The relation of the plains work to the Laramie River work was that of working out the details connected with the work of distribution and application of that water to lands in the Poudre Valley." (1748.)

"In 1905 and 1906, we considered almost every piece of property on Cache la Poudre river in connection with this system, and surveys were made in these computations. Lines of distribution, water supplies, lands to be irrigated, and how the system could be used in connection with other systems for distribution were considered; necessary surveys from reservoirs and all lands, several of which went as far as the Crow Creek county east of the Union Pacific Railroad. Other work was done in connection with the system at the upper end taking into consideration group of reservoirs then belonging to the North Poudre Irrigation Company and its relation to this system.

This involved surveys for the different reservoirs and computations were made as to capacity and cost of incorporating them under the general system." (1751.)

He then describes the absorption during that year of the Eastman Canal and other systems into the distribution portion of the Greeley-Poudre system, and continues:

"These are examples of work which was generally going on during that time. The works were numerous and entailed a very careful consideration of a large number of the systems of Cache la Poudre valley. Expenditure of money on the system was constant during years 1905 and 1906, principally along line I have mentioned."

"In connection with development of an enterprise as large as the Greeley-Poudre, involving large expenditures of money, it is always necessary to investigate every possible means of accomplishing the same general end by the cheapest and best means." (1752-3.)

"In 1905 and 1906 diversion of this water from Laramie River and its effect upon the stream and interests

along river were investigated by me. Data was collected and brought into shape, hydrographs were made of the flow and computations made of supply available at the various points of diversion for the best design of works and other information of general value obtained. This work involved expenditure of money, largely in office force. It continued entire time we were employed on river." (1758.)

"In 1905 and 1906 surveys were made in connection with general project to verify wisdom of building tunnel. Investigations of every possible means of diverting water were carried on. Laramie River Reservoir was surveyed in connection with survey for purposes of ascertaining feasibility of diversion of water from Laramie River drainage through the reservoir and an outlet canal from it in place of tunnel and collecting ditches. * * *

The result of this survey in 1906 was that it was impracticable to build this canal." (1760-1.)

"Surveys of Laramie Reservoir were completed, but it was separate and apart from the system commonly called the Greeley-Poudre system. It was surveyed and mapped as a subsequent and junior enterprise. (1767.)

* * * during the summer of 1905 I did considerable work in the way of going over various properties and ascertaining their relations to each other and to the new project, and making some detailed surveys, one being of Reservoirs 5, 6, 7 and 9, and determining the area of lands the outlet from those reservoirs and from Cobb Lake Reservoir would cover." (1791.)

"In addition to the construction work which I have mentioned as being performed since 1904, the engineering work in the field with oftentimes as many as four parties, the office investigations and classification of data, the financial efforts of Mr. Hibbard and his associates, were going on continuously and practically all the time." (1817.)

"The two major considerations in connection with this project were the water supply and the expense of conducting the water to the land. It was understood from the first that at least 125,000 acre feet must be delivered at the land, and reservoir facilities for about 100,000 acre feet were provided in the plans." (1847.)

Let it here be noted that the Greeley-Poudre project involves reclamation of area almost half as extensive as the entire

present reclaimed area within that drainage, from all ditches, canals and reservoirs. These have been in process of construction through more than forty years.

Wallis A. Link stated:

"It was recognized by me and by my associates that it would be necessary to locate ditches and works upon plains of Poudre Valley as well as to construct ditches in mountains.

Poudre Valley Ditch had been constructed out of mouth of Poudre Canon in 1902. I have viewed lands that might be served from extension of this canal. I was along at time survey was made of such extension by Mr. Charles R. Hedke, engineer. * * *

In 1905 expenditure of both money and time was made in investigation of territory in Cache la Poudre Valley in which to make use and application of water to be obtained by means of the Laramie River system. I was engaged in this work as well as in work in the mountains during that year. Was in mountains during all fore part of season and later in summer we came down and ran survey from Reservoirs 5 and 6 of the North Poudre system down to Union Pacific Railroad and beyond. The Reservoirs 5 and 6 are capable of being filled from the Poudre Valley Canal.

Poudre Valley Canal is upper end of ditch for carriage of water from Poudre River in Cache la Poudre Valley to the Greeley-Poudre Irrigation District. Mr. Hedke made two surveys from Reservoirs 5 and 6 for an extension of Poudre Valley Ditch to Union Pacific Railroad and beyond. Generally speaking, this line of survey is indicated by the ditch line leading out towards McGrew Reservoir and shown on the map, Exhibit 1, attached to answer of corporate defendants. (1961-2.)

* * * I heard testimony of witness Charles R. Hedke, who just preceded me. The surveys as he described them for the year 1905 works are correct. He was the engineer who did the surveying. (1963.) * * *

In 1905 I was in mountains from about April 1 until sometime in August or latter part of July. Excavation work was not going on in mountains during that summer. * * * I was engaged all summer in caring for the ditches and other work." (1964.)

"In 1904 the principal place of business of those interested in this project was in Fort Collins. Mr. Hibbard was financial promoter of proposition. He resided

all the time in Fort Collins after entering into project. He engaged in no other business than the projection of this system and was continually employed in promoting it. He made several trips east, met people, financial firms, and bond brokers, to promote the proposition and raise money.

The co-partnership had engineers in field the most of the time from 1904 on." (1963.)

Witness A. I. Akin says:

"In 1905 and 1906 efforts of myself and associates were directed principally toward the distribution end of the system, on Poudre River side. To taking water through Poudre Valley Ditch out to plains east of Nunn and Pierce. Charles R. Hedke was engineer for association of individuals during that period. I have heard his testimony given in this case. He described correctly the work done by him or under his supervision during those years." (2051.)

"A contract to run water through the Poudre Valley Canal was the result of the negotiations carried on with The Poudre Valley Reservoir Company during years 1905 and 1906. Water to be carried for use on land from ditch extending east from end of present Poudre Valley Canal.

During 1905 and 1906 the association of individuals and The Laramie Reservoirs and Irrigation Company expended considerable money to further the enterprise.

Up to October, 1906, \$31,736.90 had been expended by the association of individuals and the company on this enterprise. We had also expended \$4,998 in purchase of property on Laramie River.

At the beginning of work in 1907 (March 1), my associates and I had expended on the system, outside of purchase of properties on Laramie River, \$34,045.01. In both ranches and work we had expended \$46,079.32." (2053.)

The initial survey was commenced August 25, 1902, and outside of the work performed by Messrs. Link and Akin that fall, some \$350 was expended in making the Beach survey. (2042.) The necessary road work of 1903 has already been described. During 1904 about \$20,000 was placed in the enterprise. (2047.) Practically all of this work for these was on the Laramie River portion of the system, so that during 1905 and 1906 it was essential that plans for the distribution end be completed and before the beginning of work in 1907, \$46,079.32

had been expended upon the project, and upwards of \$20,000 during 1905 and 1906.

1907—April, 1908.

During the years 1902-6, the title to the property had vested, first, in Wallace A. Link and A. I. Akin; subsequently, in the early spring of 1904, Myron Akin and Wellington Hibbard became interested, the latter continuing his services in connection with the enterprise until killed while in the performance of his duties on March 25, 1910. (2045.)

September 19, 1906, The Laramie Reservoirs and Irrigation Company was formed and succeeded to the previous association of individuals. (2051.)

March 19, 1907, the defendant, The Laramie-Poudre Reservoirs and Irrigation Company, was organized and succeeded to all the rights, titles and property theretofore owned by The Laramie Reservoirs and Irrigation Company. (2052.)

Thus we find the defendant corporation in full charge of affairs before the opening of work in 1907.

The winter of 1907-8, prior to the opening of work in the spring months in the latter year, will be treated along with the year 1907.

With the opening of the working season of 1907 (not 1909 as erroneously suggested in plaintiff's brief), general construction proceeded from the furthestmost canal of the system, the Upper Rawah Ditch on the Laramie River, clear through to the principal distribution canal now known as the Greeley-Poudre Canal, being an extension of the Poudre Valley Canal, eastward along the north side of the Greeley-Poudre Irrigation District. The matured plans, thoroughly worked out at great expense under the supervision of Engineer Charles R. Hedke, for distribution as well as diversion, had been adopted by the defendant corporation and construction proceeded upon the entire system. (1768-71, 2054-68.)

Crews of men with full equipment, including about fifty white men, a pick and shovel crew of about one hundred Japanese, and a heavy rock excavation crew of about fifty Greeks were at work on the Upper Rawah Ditch from the opening of the season (July 1) to the close (October 1), during 1907 (2054-8, 2060), and numerous wagon freighters were hauling supplies, men and machinery to and from Fort Collins, Laramie and southern Wyoming points.

The character of this work is well illustrated by photographs taken by A. I. Akin and introduced as exhibits:

Exhibit 79, photograph of Upper Rawah Ditch at point where snow had been shoveled out in early part of July, 1907.

Exhibit 80, showing gang of Greeks shoveling snow of road in July, 1907.

Exhibits 81, 82 and 83, photographs of gang of about one hundred Japanese, foreman, engineers and portions of work in process of construction.

Exhibit 84, photograph showing gang of Greeks working at heavy rock work on the Upper Rawah Canal.

The Upper Rawah Ditch was completed from its point of discharge into the west fork to a point in the neighborhood of Camp Lake (one of the Link Lake Reservoirs) and clearing and surface work were done to the latter point. The work continued until prevented by snow. (1757, 2054.)

Evidence of work on this portion of the system during 1907 shows:

Charles R. Hedke:

"In beginning of season 1907 labor conditions were favorable, men were hard to get in a region of that kind, work was plentiful and after considerable negotiation along those lines finally some foreign labor was used in construction." (1754.)

"In 1907 upper unit of Laramie River portion of works known as Upper Rawah unit was extended and surveys were made in connection with the canals and works of that entire unit. The work covering the largest expense was in connection with the Upper Rawah Ditch, upon which considerable work was done that season." (1754.)

"In 1907 there was completed on Upper Rawah Ditch the section of canal from its discharge into the west fork, * * * to a point in the neighborhood of Camp Lake. Clearing and surface work was done as far as Camp Lake. Several hundred feet of excavation was opened up at the upper part of this clearing, but snow stopped work and parties were obliged to cease just as snow found them so that certain portions of upper line were not entirely completed." (1757.)

"The work performed on the Upper Rawah Ditch during 1907 was a part of the general work going on over the entire system. *From \$40,000 to \$50,000 was expended in 1907 on the Upper Rawah Ditch.*" (1795.)

A. I. Akin:

"In 1907 in mountain division we let contract * * * for use of his teams and equipment * * * also made contract with some Greeks * * * to do part of work on Upper Rawah Ditch * * * and contract with Hokosana, a Jap, to do part of the hand or pick and shovel work on that ditch where we could not use teams. We proceeded to excavation work along line of these contracts.

Work was carried on during season of 1907 from July 1 to October 1, when snow storms started in and we had to come out. I have photographs representing conditions along line of Upper Rawah or Link Lake Ditch at beginning of work in 1907." (2053-4.) (Ex. 79-84.)

"We got excavation along line of Upper Rawah Ditch entirely completed to point above Rapid Creek. Then there are portions above Rapid Creek and towards Camp Lake where the work is finished. Right of way is cleared of timber to Camp Lake. Capacity of ditch as completed from Rapid Creek to West Fork of Laramie River is 224 cubic feet of water per second of time." (2058.)

"In 1907 we paid the men who were working on the Upper Rawah Ditch every 15 days in money. * * * I carried the money * * * from Fort Collins to the Upper Rawah Ditch for payment of the Greeks." (2065.)

Work on a larger scale was proceeding on the distribution portion of the system in the Cache la Poudre Valley during the Summer and Fall of 1907 and the Winter of 1907-8. This was principally upon the main canal of the system, beginning at the lower end of the then existing Poudre Valley Canal and extending easterly to Crow Creek via the McGrew Reservoir (see Exhibit 1 attached to corporate defendants' answer). This work was in charge of Engineer Charles R. Hedke and was performed by the defendant, The Laramie-Poudre Reservoirs and Irrigation Company.

Mr. Hedke says, in part:

"There was other work going on at that time on plains division. That work opened up about April 1, 1907. Prior to April, 1907, plains work was generally outlined and a definite location with cross-sections marked. Purchase of rights of way was commenced in 1907 and actual excavation was commenced immediately after. * * *

In the Spring of 1907 active operations on excavation began on plains, rights of way were purchased and arrangements were made with various enterprises which were to be linked up with this system. *Construction work was done on not less than 30 to 35 miles at various points.* * * * Condemnation proceedings were commenced and construction work had to proceed at intervals along line, thus making continuous ditch impossible.

Work was carried on through entire year of 1907. A large amount was done, principally in the vicinity of

Wellington, Colorado, and a little to east. All to east and along the line of the extension of the Poudre Valley Canal. That is same line of canal commonly known as Greeley-Poudre Canal. It is indicated on Exhibit 1 by red line along north border of colored area and to west of such area indicated by red line. It is the upper canal of the Greeley-Poudre system.

General construction went on over the entire system of which I have spoken. Work on plains was that of ordinary earth work construction of the vicinity and the outfits usually consisted of men and teams with fresnos and slips, and at that time we had an elevating grader and steam engines for pulling. Had two of these outfits on this line of canal. There were six or seven team outfits averaging 15 to 20 teams per outfit. * * * There was some rock excavation requiring use of powder and materials were taken out with carts and stone-boats.

This work continued entire year of 1907 and into year 1908. It continued after we had ceased labor on Upper Rawah Ditch in Fall of 1907. The force employed on the Upper Rawah Ditch on Laramie River division, when compelled to come out on account of weather conditions, continued to work on the plains division.

In the Fall of 1907 financial panic interfered to some degree with finances of company. To overcome the situation there was issued by Company obligations called script, which obligated Company to pay same out of first moneys derived from sale of bonds of Company in future. About \$50,000 of such indebtedness was incurred. It was all used in keeping up work on system after October, 1907. Its full value was received in work upon system after panic. * * *

*In 1907 and 1908 \$129,572.00 was expended on actual construction on the system, in addition to overhead expenses. That was all expended in construction of the Greeley-Poudre system. * * * About \$25,000 was expended in 1908 on the work." (1768-71.)*

Same witness, on cross-examination, said:

"In that year there was considerable work in the Poudre Valley, in the extension of the Poudre Valley Ditch. The Laramie-Poudre Reservoirs and Irrigation Company having acquired the carrying interest in the Poudre Valley Ditch, although not a stock interest in the Company, built several sections of a proposed extension of that ditch to the town of Nunn.

I would say that the amount expended on this exten-

sion work was about \$70,000, this covering only construction work. Several separate sections of the proposed extension were completed, and some sections were not worked upon on account of the lack of right-of-way." (1796-7.)

"In the Poudre Valley the work of 1907 continued through the winter and into the spring of 1908, and in that year some work was done on the Black Hollow Cut on the Greeley-Poudre Canal. * * * All of the work that was done was on the extension of the Poudre Valley Canal." (1799.)

A. I. Akin says:

"In summer of 1907 final location of Laramie-Poudre Canal to Crow Creek was finished. While we were working in the mountains with the Japs, the Greeks, and also the gang of white men, Mr. Hibbard and Mr. Siegler, acting for the Company, purchased two * * * engines and graders and started those at work west of Wellington and east of the end of the Poudre Valley Ditch. They worked those engines until October on that piece of work * * *. They took the Greek crew which we had in the mountains, when they came down, and used them till after Christmas putting in the siphon across Box Elder Creek * * *. This was crew of 50 men. (2059.)

* * * In 1907, Ianson, after coming out from the mountain work, took charge of the engine crews with grading teams * * * and worked there until Christmas time. * * * Coal Bank Draw is 12 miles east of Fort Collins.

During 1907 and 1908 other construction contractors were excavating earth along line of Greeley-Poudre Canal. Mr. Lemonds of Nunn, Colorado, had a crew working west of that place, and about 5 miles due west of Pierce. In 1907 Mr. Harry Knowlton finally took contract to build the whole ditch system out to McGrew Reservoir, and in that contract he took over the engines and graders and all camp equipment that the Company owned, and took charge of the work and kept going part of the summer of 1908. * * *

There may have been other contractors in 1907 and 1908 other than those I have mentioned * * *

These contractors I have mentioned were strung out along the line between the lower end of the Poudre Valley Canal and the McGrew Reservoir during 1907 and 1908. This new ditch constitutes an extension of the Poudre Valley Canal. * * *

*I should judge about \$250,000 was expended in excavation work, enlarging equipment and supervision in 1907. * * **

In 1907 the financial panic temporarily tied everything up. As the result of the panic we had to issue script owing to the fact we were running out of money. We had made arrangements for more money. The panic caused these parties to fail to keep their contract and furnish us money. * * * We paid the men half in cash and the balance in script. This we did until February, 1908." (2065.)

It is apparent that an enormous amount of work was done upon the enterprise during 1907 and the winter of 1907-8. \$129,572 was expended in actual construction on the system, in addition to overhead expenses. About \$250,000 was expended in construction, rights-of-way, equipment, engineering and all overhead expenses during this time. Crews of men were actively engaged from the mountain peaks on the Laramie River to McGrew Reservoir in the Cache la Poudre drainage. In the latter division teams and contractors were strung along some 30 to 35 miles of canal and great steam drag-lines were at work on part of the canal. With \$46,079.32 expended upon the system prior to 1907, a total of \$296,079.32 had been spent prior to the Spring of 1908, not including purchases of additional water-rights, etc.

The Lake Hattie, James Lake and other minor projects on the Laramie Plains in Wyoming were initiated in the Spring of 1908. The initial surveys on the James Lake project were commenced March 22, 1908. (638.) Those on the Lake Hattie system were commenced April 16, 1908. (650.) These surveys continued with slight interruptions for a little over a year. The final location of the canals was started about May 1, 1909. Actual construction was started on the Lake James project July 17, 1909.

It thus appears that during less than six years immediately prior to the initiation of and construction upon the Wyoming projects, there had been expended on the Greeley-Poudre project upwards of \$296,079.32 (not including purchase of properties, etc.), between August 25, 1902, and March, 1908. During that time definite and final surveys had been made of the entire Greeley-Poudre system and open construction had proceeded on mountain roads and canals during the working seasons. Canal construction proceeded upon the Plains of the Cache la Poudre where all travel from Wyoming to Denver passed in plain view. All of the operations upon the entire Greeley-Poudre system during all of these years was most open and notorious and well known to the citizens of both states.

No pretense is made by Wyoming that the Lake James project diverting waters from the Little Laramie River and to that extent depleting the general supply of the stream, had its inception before the dates given, and the record shows conclusively that all other recent Wyoming projects were initiated subsequent to the above described work upon the Greeley-Poudre enterprise in Colorado.

Notwithstanding the Colorado work, Wyoming and her citizens, early in 1908, commenced new projects for utilizing water from the same stream almost six years subsequent to the beginning of the work upon the Greeley-Poudre project in Colorado.

(c) *April, 1908,—Sept. 8, 1909.*

Work continued during 1908 and 1909 on the Laramie River portion of the system, although not to the extent in 1907. (1757, 1798, 2058.)

During 1908 the work progressed upon the plains division. A contractor, who had taken charge of the plains work, stopped his principal efforts during June, 1908, but continued to do some work after that. (2062.) Some work was done on the Black Hollow Cut of the Greeley-Poudre Canal. All plains excavation that year was paid for in script of the company and was done on the extension of the Poudre Valley Canal. (1799.)

The panic of 1907 required re-adjustment of the financial affairs of the defendant, The Laramie-Poudre Reservoirs & Irrigation Company. The general result of this re-adjustment was the formation of the lands, for the irrigation of which the project had been in construction since 1902, into the Greeley-Poudre Irrigation District. This organization began in the early part of 1908.

Mr. Camfield testified as follows:

"Early in 1908 I began consideration of proposed system of works, water supply and general conditions surrounding the Greeley-Poudre project. Had thoroughly familiarized myself with everything connected with the project long prior to that time. Became interested through efforts of Mr. Hibbard. Had several meetings wit Mr. Hibbard and Mr. Duvall and also another engineer, Mr. Green. Also Mr. Charles R. Hedke, engineer. We went over entire matter and considered everything in Poudre Valley and on Laramie River. * * * At that time had general understanding of condition of works then in course of construction to accomplish diversions of Greeley-Poudre system from Laramie and

Poudre Rivers. They had been working on the system prior to that time. (2156-7.)

After making investigation of Greeley-Poudre project and considering the possibilities of same from every standpoint, I bought 23 per cent of stock in The Laramie Poudre Reservoirs and Irrigation Company. (2159.)

Approximately \$800,000.00 had been expended before we went into company. This had been expended in promotion and construction of system. Prior to my entering and purchasing stock, I had understanding with stockholders that I would buy only on condition that irrigation district would be formed. * * * Soon after I bought into the company, we made arrangements for formation of irrigation district. District finally formed in 1909."

The \$800,000 which had been invested in the project included cost of purchase of additional property, such as the Mitchell Lakes reservoirs in the Cache la Poudre Valley, in addition to that which had been expended in construction and other like expenses, the amount of which has been previously given.

April 3, 1909, (1811) the lands to be served by the system in the process of construction since August 25, 1902, by the defendant, The Laramie-Poudre Reservoirs & Irrigation Company and its predecessors, were formed into defendant, The Greeley-Poudre Irrigation District. This public corporation on September 8, 1909, entered into a contract with The Laramie-Poudre Reservoirs & Irrigation Company whereby that company was to complete its project and thereafter turn the same over to the district for the irrigation of its lands.

It is unnecessary to go at length into the details of the organization of this district and the contract with the company, all of which will be found in the testimony of engineer John R. Wortham (1602-1722) and engineer Charles R. Hedke (1820-32, 1835-55.)

The contract with the district involved no change in the Laramie River portion of the system except that the work upon the collection ditches for diversion and carriage of water to the west portal of the tunnel was shifted largely to the two lower collection ditches. The one and only reason for this change is thus given:

"Plans for constructing the remainder of this Upper Rawah Ditch, adopted subsequent to 1907, were that after 1908 they started construction work on the tunnel

and the two collection ditches in the valley, the one from Deadman and the one from Rawah, and it was decided that we could do the remainder of the construction work on the Upper Rawah Ditch cheaper with maintenance crews than we could by putting gangs up there and keeping them there. After we could get the rest of the system running, we could put our maintenance men up there and have them there in case there was any break in any of the ditches, and at the same time keep them working at construction work on the Upper Rawah Ditch, back to McIntyre Creek.

There never was any intention of abandoning the Upper Rawah Ditch. That ditch is an essential and necessary unit of the system. It has been carrying water and discharging into the West Fork of the Laramie River since 1904." (2058-9.)

1909-1913.

September 8, 1909, the general contract was made between the defendants, The Laramie-Poudre Reservoirs & Irrigation Company, and The Greeley-Poudre Irrigation District. A general description of construction will suffice. The two and a quarter mile tunnel of the system was completed at a cost of \$600,000 (1652, 1772) before the closing of construction as a direct result of this suit and its influence upon the sale of the bonds and securities of the Irrigation District (Camfield 2163-5; Iliff 3653-62, 3665-70, 3682-7, Decree, Ex. 179.) This tunnel has a carrying capacity of 1,000 cubic feet per second (1853) and its prosecution continued day and night (1652.) The difficult portions of the two lower collection ditches on the river were completed at a cost of \$233,503 to the district (2125.) About \$20,000 was expended on the tunnel reservoir (1860) and numerous other smaller units on the Laramie River were either wholly or partially completed. On the Poudre River side, the work proceeded upon the entire distribution portion of the system. Contractors were engaged on the different canals and reservoirs upon the plains and but little work remained to put the distribution system in running order for the use and application of the waters of the Laramie River. A more detailed portrayal of the magnitude of this system and the work done upon it during these years appears in the testimony of Charles R. Hedke (1723-83), construction engineer for the company, and John R. Wortham, engineer for the district (1602-1722, 2078-2137.)

After August, 1911, the Greeley-Poudre Irrigation District, at an expense additional to that provided for in the contract with the company, constructed concrete lining in the tunnel

under the direction of Mr. Wortham, its engineer. This work was finished May 1, 1914 (1628). Charles R. Hedke severed his connection with the construction company February, 1911, and at that time \$1,825,000.00 in cash (not bonds) had been expended on the Greeley-Poudre system (1779). The subsequent tunnel lining by the district cost \$20,720.19 in cash (1654).

At the time of taking the testimony in this case, the Greeley-Poudre Irrigation District had expended upon this system the sum of \$3,046,780.00 in bonds, on account of the construction (2130), and also the additional sum of \$8,500 in cash (1656), for the completion of the approach cut from the Laramie River to the west portal of the tunnel. On the Laramie River portion alone over \$900,000 had been expended by the district and its predecessors (1654, 1772, 1795, 2047, 2125). These amounts represent the sum total of the expenditures on the project from August 25, 1902, to the date of the close of the testimony in this case, and include not only those made by the district, but as well the expenditures made by The Laramie-Poudre Reservoirs & Irrigation Company and its predecessors, the sum total of which was about \$800,000.00 at the time Mr. Camfield bought into the company. More than two million dollars of bonds of the district were expended in construction and in payment under the terms of the contract from September 8, 1909, to the summer of 1913. In February, 1911, when Mr. Hedke severed his connection with the company, a great part of this expenditure had been made.

Of continuity of work from 1904, when he became associated with the project, Mr. Hedke makes the following general statement:

"Work and expenditure of money upon the system now known as the Greeley-Poudre system was continuous and uninterrupted from 1904 until February, 1911, at the time I severed my connection with the Company. It was done under some difficulties and conditions that showed remarkable progress for these conditions and difficulties." (1776.)

The witness then continues to describe, more in detail, the progress made, concluding with the remark that a world's record was made during the drilling of the tunnel (1776-9).

Record of each of surveys upon each unit was made. Proper filings were made in the office of the State Engineer of Colorado. Copies of these filings were introduced as Plaintiff's Exhibits N to T inclusive (1835-9), and also, in part, as Defendants' Exhibits 51, 74 and 75.

All of these filings are merged into the decree of the Dis-

trict Court of Larimer County, Colorado (Defendants' Exhibit 179), wherein the court, after reviewing the history of the enterprise from the initial survey and specifically finding that more than ordinary diligence had been used, fixes the priority of the enterprise as of August 25, 1902. No appeal has been taken and the decree is final and binding upon all Colorado appropriators.

Regardless of the decree of the District Court fixing August 25, 1902, as the priority of the Greeley-Poudre project, the fact remains that under the doctrine of relation (by which priority dates as of initiation of the enterprise), the priority of right of this system to divert water from the Laramie River would date as of August 25, 1902, the date of the beginning of the first survey, a date, as we shall observe, years prior to the first initial act in any way having to do with those Wyoming projects in whose behalf this suit is prosecuted.

(5) Errors in Plaintiff's Brief.

Plaintiff seeks to obscure the true dates of the initiation and priorities of the early Greeley-Poudre enterprise in Colorado on the one hand, and the very recent and far junior Wyoming enterprises (principally Lake Hattie and James Lake) on the other hand, by two erroneous and wholly unwarranted assumptions:

(a) That Colorado seeks to claim priority for her Greeley-Poudre enterprise as of 1897, when, in truth, August 25, 1902, is the only priority for that system asserted by defendants in their answer, established by the evidence or fixed and determined by decree of the District Court of Larimer County, Colorado, in adjudication of water rights in Colorado; and,

(b) That the Upper Rawah Ditch, one of the three necessary collection canals of the Greeley-Poudre system, constructed for the diversion and carriage of water from tributaries of the Laramie River back to the tunnel portal, never was intended as or to be a part of the system.

(a) Erroneous Priority Assumptions.

The first of these assumptions finds no foundation in either the pleadings or the record. In truth, possibility of a tunnel, collection ditch and reservoir system similar to that of the Greeley-Poudre Irrigation District on the Laramie River, first came to the attention of Wallis A. Link in 1897, while he was searching for a wounded deer on the mountains over the location of the now completed Greeley-Poudre tunnel. Mr. Link later interested Mr. A. I. Akin in the plan and drew a rough plat showing the general location of the tunnel and the three (not two) collection ditches which he exhibited to Akin and early in

1902 he and Mr. Akin visited this remote region and made reconnaissance of the whole tunnel and collection ditch scheme. As a direct result of these efforts upon the part of Link and Akin, the first and initial survey was commenced on the project August 25, 1902. (1929-35, 2039-42.)

These uncontradicted historical facts are interesting and of some value to show the system first conceived by Mr. Link in 1897 and later planned by Link and Akin in 1902, to be, in all essentials, the same project now partially completed for the Greeley-Poudre Irrigation District, but are but preliminary and no more vest a priority of right to the appropriation of water than would the early search for mineral by a prospector constitute the location of a mining claim.

Priority for the Colorado enterprise is not predicated upon these preliminary acts of Link and Akin, but entirely upon the commencement of survey, August 25, 1902, since which time work has proceeded with diligence and continuity. (1935, 2039.)

The answer of Colorado, on page 8, reads:

"Defendant avers that other appropriations of said water of said Laramie River and its tributaries have been made by the State of Colorado and its citizens within the State of Colorado, prior to the appropriations of said waters by complainant and its citizens, as set forth in the complaint, *and avers that on the 25th day of August, 1902, the defendant, The Laramie-Poudre Reservoirs and Irrigation Company and its predecessors in title, by commencement of construction, initiated its rights to the diversion * * * through the tunnel mentioned in the bill of complaint, * * * and that at the time of the initiation of said rights of the defendant, The Laramie-Poudre Reservoirs and Irrigation Company and its predecessors in title, there was abundant water in said stream to satisfy all prior appropriations then in existence in the State of Colorado and in the State of Wyoming.*"

To the same effect are the averments on page 15. On page 8 of answer of corporate defendants, the averments appearing on page 8 of answer of the State of Colorado are substantially repeated, and on page 15, among other averments to the same effect, corporate defendants say:

"* * * that prior to the initiation of this suit—that is, *on August 25, 1902*—the construction of said system was begun by a predecessor in title of these defendants * * * that *defendants are the owners of all rights so initiated August 25, 1902.*"

On page 19 corporate defendants say :

"* * * that long prior to the initiation of this suit—to-wit, *August 25, 1902*—and while there was abundant unappropriated water in the run-off of the Laramie River * * * predecessors in title of these defendants initiated, by commencement of actual construction on *August 25, 1902, the water rights which are sought to be exercised by diversion through the tunnel* mentioned in the bill of complaint; that since such initiation, the defendants and their predecessors in title, have diligently, by continuous work and expenditures on the construction of an extensive irrigation system, preserved the rights so initiated."

August 25, 1902, is the only date of priority for the Greeley-Poudre enterprise asserted or claimed by the defendants. The District Court of Larimer County, Colorado, so decreed (Exhibit 179), and no contradictory evidence appears throughout the entire record. Nowhere are defendants heard to assert any earlier priority for the enterprise.

To urge that an adversary is entitled to a senior priority is unusual between contending appropriators. The opposite is almost universal. Colorado here asserts and conclusively proves that she is entitled to priority as of *August 25, 1902*, the date of commencement of the surveys in conformity with which her project has been constructed, and no earlier, and yet Wyoming argues, in her brief (in which Colorado does not concur), that the Colorado appropriations are asserted as of 1897.

The reason for this unusual, and somewhat mysterious argument, is alone revealed by that portion of the Wyoming brief wherein she seeks credit for one of her own recent 1908 enterprises (the Lake Hattie Reservoir), for a few random and wholly irrelevant reconnaissances made during the past twenty years, and which, according to the Wyoming testimony, had very little in common with each other and absolutely no bearing upon and were in no manner connected with the Lake Hattie enterprise. (660-1, 665, 770-1, 935, 971-5.)

We shall later discuss these random, disconnected "surveys" more in detail when considering the Wyoming appropriations, and particularly the mythical "Pioneer Highline Canal." For the time being it is sufficient to say that the testimony shows, without contradiction, that the survey of the Lake Hattie project was begun April 16, 1908 (650) by an engineer who had no knowledge of and whose work was entirely foreign to any former reconnaissances or so-called "surveys." (661.)

For Wyoming to admit the true priority of her project (1908) would be to admit that the Greeley-Poudre (Colorado)

enterprise is almost six years senior. Rather than make such admission, cover is sought in suggesting that by some vague legal fiction, and notwithstanding all the pleadings and proof, excuse might be found for urging a date for the Colorado appropriation five years earlier than August 25, 1902, by reason of the early preliminary efforts of Link and Akin. If this argument is sound, then, it is argued, some semblance of excuse exists for Wyoming to contend that her new projects, in whose behalf this suit is brought, by some stretch of legal fiction may possibly be entitled to priority somewhere between 1886 and 1908, according to which one of the few random and heretofore abandoned efforts may be selected, notwithstanding no previous assertion of any such claims, all of which are long since forever barred by Wyoming statutes.

In other words, only by urging that Colorado does not claim enough may Wyoming find fiction for claim anterior to the Colorado system. With this evident purpose, counsel refer to certain evidence of witness Wallis A. Link, frequently designated as Wallace A. Link, wherein he stated that he first observed the opportunity of building the tunnel in 1897, while searching for a wounded deer in the vicinity, but that he took no steps toward completion of the system at that time (193), and, contrary to the pleadings and all the evidence, say:

"It is the purport of the evidence for the defendants that the tunnel, which was commenced twelve years later, had its origin in this episode." (P. 22.)

The next portion of the brief, which we quote, shows that by the use of the word "origin" is meant "priority."

This line of thought must have originated in the mind of counsel, for they are the first to so utter. The purpose of this attempt to confuse the time of the initiation of the Greeley-Poudre project by the creation of a fictitious claim on behalf of defendants, is self-evident:

"In view of the contentions of Colorado that the Greeley-Poudre system is entitled to assert a priority of appropriation relating to the time of the *vision* of Wallace Link, despite the many years before any real work was performed, it is interesting to note that the Lake Hattie system was constructed by the owners of the Pioneer Canal after their predecessors had made surveys from time to time since 1886," etc. (P. 76.)

If the court can be convinced, contrary to the truth, that Colorado claims priority for the Greeley-Poudre enterprise from 1897, at the time when the possibility of the enterprise was first casually observed by Wallis A. Link, and that she is

attempting to take advantage of certain reconnaissance work thereafter done by the early projectors of that enterprise prior to initiating the actual surveys on August 25, 1902, then pretext may exist for attempting to assert an anterior priority for the Lake Hattie enterprise. Unfortunately for counsel, the evidence conclusively shows that while certain disconnected reconnaissances were made by some three or four persons during a period of twenty years prior to 1908, these so-called "surveys" had no relation one to another and none of them to the Lake Hattie system, so that in no event might that system claim semblance of priority anterior to 1908 or to August 25, 1902, the priority of the Greeley-Poudre enterprise.

For the present, we say that for the Greeley-Poudre enterprise to attempt (which it most decidedly does not) to assert priority upon the early efforts of Link and Akin prior to August 25, 1902, or upon what is termed by counsel for Wyoming the "vision of Wallace Link," rather than by authority of the initial surveys leading to the final construction of the project, would be almost as spurious as the attempt to cloud the issues by so-called "surveys" which had no part in the initiation of the Wyoming enterprise. It is true that the early efforts of Wallis A. Link and later of Link and Akin, prior to August 25, 1902, were a broken series of acts having the one common end of building the tunnel and collection system, and none other, and were put forth by the men who were finally instrumental in setting in motion the final construction of the enterprise. It is also true that they continued to be financially and otherwise interested long after construction commenced. But these facts are wholly unlike the "visions" of some of the residents of Wyoming prior to April 16, 1908, to the effect that at some distant time or by some future generation an imaginary canal (not reservoir system), which still remains a fiction, might, and may be, constructed upon the Laramie Plains, all of which "visions" and all acts in consequence thereof were disconnected with one another and wholly foreign to any enterprise now in process of construction.

The Colorado enterprise began August 25, 1902, and the Wyoming enterprise April 16, 1908, and not before, and erroneous assumption of fancied claims, or gathering together of random ideas or disconnected acts, can no more vest any other priority in the Wyoming enterprise than can the "wounded deer" incident of Wallace Link justify other or earlier claim by Colorado. The date when work actually and definitely began in good faith upon each enterprise fixes its priority.

(b) Erroneous Assumptions in Re Upper Rawah Ditch.

The assumption that the Upper Rawah Ditch was not

originally intended to be a part of the Greeley-Poudre system is equally in error. This supposition, however, is evidently made with a different and more natural design, viz., to try to discredit the earlier construction upon the Greeley-Poudre enterprise in order that semblance of accuracy may be given to the contention that very little had been done upon the Colorado enterprise prior to April 16, 1908, when the newer Wyoming enterprise was actually initiated, notwithstanding more than \$296,000.00 had been expended in construction, equipment and supervision, and upwards of \$800,000 for all purposes, upon the Colorado system during the five and one-half years prior to 1908.

The argument advanced by counsel in support of this new theory is founded on substantially the following facts and suppositions:

The Greeley-Poudre system has two canals on the west side of the Big Laramie River in Colorado, constructed for the purpose of collecting water from tributaries and carrying the same to the west portal of the tunnel. One is located high up on the mountain sides, nearly at timberline, and is known as the Upper Rawah Ditch, and the other at a lower elevation and diverts and carries whatever water the upper ditch fails to capture and is known as the Lower Rawah or West Side Ditch.

The *Upper Rawah Ditch*, of 224 cubic feet per second carrying capacity, discharges its waters directly into the West Fork of the Laramie River, whence it flows down to the tunnel. It so happens that *a part* of these waters may be (but never were) captured and carried out of the Laramie watershed by the Skyline Canal of The Water Supply and Storage Company, constructed during the 90's for the diversion of water flowing in the West Fork. This later canal has a carrying capacity of only 130 cubic feet per second, and at times, when there is not sufficient water in the West Fork to completely fill the canal, *some* space is available wherein *a small portion* of the 224 cubic feet per second of the water of the Upper Rawah Ditch might be (but never was) carried through the Skyline Ditch, if proper arrangements to that end were made with the owners of the canal. In such case *all of the remainder of the 224 cubic feet of water* from the Upper Rawah Canal must, of necessity, pass down the West Fork, and to the Laramie unless intercepted by the tunnel.

Climatic conditions limit operation of the Skyline Ditch to a few months in each year, and during the greater portion of that time its carrying capacity is utilized by its own appropriation and there is no opportunity to carry even a small part of the water from the Upper Rawah Ditch except during a very brief interval in each year.

To attempt to carry the 224 cubic feet of water per second from the Upper Rawah Ditch through a small available portion

the 130 cubic feet capacity of the Skyline Ditch, would, to use the common phrase, be attempting to insert "a square stick into a round hole."

Those who had charge of early construction upon the Greeley-Poudre system do state that some temporary (not permanent) arrangement was made with the owners of the Skyline Canal to use any available space in that canal for the carriage of a part (not all) of the waters from the Upper Rawah Ditch during the period of years necessarily required to construct the tunnel portion of the Greeley-Poudre system. Thus early use might be (though never was) made of a small part of the water from the Upper Rawah Ditch in much the same manner as a street might be temporarily occupied during repairs upon adjacent buildings. The Greeley-Poudre parties had no other or different right-of-way through the Skyline Canal and had no right to enlarge it or intent so to do.

Counsel for Wyoming presume to argue that, because a small part of the Upper Rawah water *could be temporarily* conveyed to the Cache la Poudre Valley by means of the Skyline Ditch, and because those in charge of the project saw fit to permit a part of the early construction upon this upper unit of the system in order that advantage might be taken (if desired) of the temporary arrangement to carry a small part of the water through the Skyline Ditch, this Upper Rawah Ditch should be created as a separate construction, as no part of the general system and of no use to the tunnel enterprise.

All those who directed early construction upon the Greeley-Poudre enterprise appeared as witnesses. The testimony upon all phases of the early history was complete and at considerable length. From this entire testimony not the slightest foundation can be obtained for any such theory as that advanced. The whole record shows, without the slightest contradiction, that the three collection ditches, including the Upper Rawah Ditch, were, from the outset, considered and treated as a part of the tunnel project; that they were so portrayed long before any surveys took place; that they were so considered by Link and Akin while they were going over the project during 1902, and that each of the three ditches are a necessary and essential part of the system now in process of completion.

Wallis A. Link, A. I. Akin, and Engineer Zac T. Duvall and Charles R. Hedke, testified concerning the earlier construction. We shall quote at some length from their uncontroverted testimony. Of efforts prior to initiation of enterprise, Wallis A. Link says:

"Am acquainted with the location of the Greeley-Poudre tunnel. I located it." (1929.)

He then goes on to describe the occasion for his discovery of the tunnel site and continues:

"I was the originator of the *entire proposition as now constructed or planned*. I moved to Fort Collins in 1901. * * * While living there, became acquainted with A. I. Akin. * * * Imparted to him information I possessed as to possibility of system to be constructed for diversion of water from Laramie River *by means of tunnel, east and west side collection ditches and upper collection ditch*. Explained it to him some time during spring of 1902. * * * I explained to him the proposition and *made a sketch map or chart of it*.

In making this sketch map, *I described the tunnel and the collection ditches coming to and feeding this tunnel*. * * *

Akin and I made trips * * * down the West Fork and East Fork * * * about 1,000 feet distant from the west portal of the Greeley-Poudre tunnel. I explained to him the system." (1930-2.)

He then explains his early plan for opening construction in the first instance on the Upper Rawah Ditch rather than on the lower collection ditches:

"We adopted a method by which we were to build a part of the system first and employ the same to demonstrate the flow which was obtainable and also to assist in obtaining money for further promotion. After our first trip to Link Lakes and over that country, we thought that the first thing to do would be to build this ditch and connect it up with the Skyline Ditch, as this" (referring to the Upper Rawah Ditch) "*being a unit of the whole*, would retain our franchise and still give us revenue to proceed in the construction of the work. * * * We visited Link Lakes. I explained to Mr. Akin the line I proposed for this first construction. I had been over to these Link Lakes on many occasions and knew the country thoroughly. *I knew the comparative elevation of necessary ditch lines and also of tunnel*. I showed Mr. Akin at that time the line where I thought the ditch would go." (1932-3.)

The survey upon which the priority of the system is predicated is next described by Mr. Link:

"Later on in the season (1902) we had the line surveyed. The line established by the survey did not vary from the line I conceived and explained to Mr. Akin.

Frank Beach, civil engineer, was taken up there

* * * to survey the proposition. Mr. Akin and I paid for the work. We had him first survey the Link Lake Ditch, which they now call the Upper Rawah Ditch.

Survey commenced August 25, 1902. Mr. Beach, Mr. Akin and I were engaged in the work.

I remember the surveys made by Mr. Duvall, the engineer, who testified just previous to me. *The lines which he established for the lower ditches corresponded just as near as can be with the lines we had charted.*" (Referring to Link and Akin prior to survey.) (1934-5.)

Witness next described the difficulties of getting into the mountainous country with pack animals, owing to natural obstacles, and details of the survey; also some slight changes on the Upper Rawah Ditch between the Duvall survey of 1904 and the Beach survey of August 25, 1902.

Mr. A. I. Akin says, in part:

"This project was first called to my attention in the spring of 1902 by Wallace A. Link. Made first investigation trip to Laramie River in Colorado in July, 1902, with Wallace A. Link. Went up there with him to look up prospect of bringing water into the Cache la Poudre River. * * * Were gone six or seven days.

I last saw the Greeley-Poudre Irrigation District system of works on the Laramie River in September, 1913. *System now in process of construction is same system early conceived by Mr. Link and me.* The ditch indicated on Defendant's Exhibit 74 is a part of the Greeley-Poudre system." (Referring to Upper Rawah Ditch.)

"In July, 1902, in addition to inspecting the land occupied by the Upper Rawah Ditch, *we looked over the general lay of the country all up and down the Laramie River and also the tunnel line. We checked the ground over in a general way for the entire system.* The only surveying done in 1902 is shown on Defendant's Exhibit 74. We had no other data from which to prepare maps." (2042.)

"*Diversion system portrayed on three maps, Defendant's Exhibit 51 (Duvall map), 74 (Beach map) and 75 (Tenney map) is practically the same system as conceived by Mr. Link and me in our exploration of 1902.* The Beach survey was preliminary, as was also Tenney's survey. The Duvall survey was definite location." (2049.)

Speaking of the 1902 surveys, he says:

"In August 1902, took engineer Frank Beach from

Fort Collins. * * * Packed up to Link Lakes and ran survey line up from upper lakes across to West Fork of Laramie River. *He began his survey August 25, 1902, that was the day he actually began on the ground.* * * * We were engaged in this survey about 15 days.

During that time we surveyed line of Upper Rawah Ditch." (2039.)

"Mr. Beach made plats of survey made by us and we filed that, Mr. Link and I, with the State Engineer; defendants' Exhibit 74 is a copy of the map prepared by Mr. Beach.

Am familiar with line of Upper Rawah Ditch as now constructed. The present line is nearly same as location shown on Exhibit 74." (2040.)

"Statement of claim indicates carrying capacity of ditch to be 224 cubic feet per second. That was size of ditch contemplated by us at the time.

On Defendants' Exhibit 74, the ditch and reservoirs are termed 'Link Lake Ditch and Feeders and Link Lake Reservoir.' That was afterwards changed to 'Upper Rawah Ditch.'" (2041.)

Mr. Link describes the construction of necessary roads during the entire working season of 1903, cut over the mountains and through the heavy timber. He further says:

"The object of building this road was for constructing the system." (1942.)

Mr. Link, after stating that new parties became interested during the winter of 1903-4, says:

"The line of ditches as we had designated and designed them were explained to our associates and I made charts showing line of tunnel and platted entire proposition.

*The five of us concluded we had better make survey of tunnel as early as possible, and so I took a team and surveyed line for tunnel. * * * Left Fort Collins * * * March 9th. * * * Took about two weeks from time we left Fort Collins. * * * There was a great deal of snow on tops of mountains. * * **

Site surveyed by Mr. Tenney is in practically same place previously selected by me.

After return of survey party to Fort Collins, Mr. Tenney made up notes of his survey and Mr. Hedke was engaged with him figuring out distances and other like work. * * * Mr. Tenney ran fly line to East Fork Reservoir to tunnel. This was done about March 15,

about same time we surveyed line over tunnel." (1947-9.)

"The association then employed Mr. Duvall to make elaborate surveys of the entire system."

The witness continues:

*"Got Mr. Duvall and went to work making final survey of tunnel. Men had been working road to West Fork of river all time I was gone. Survey was continued on throughout entire summer of 1904, during which time the entire mountain system was surveyed. Mr. Duvall first commenced surveys on tunnel in May, but had to discontinue on account of snow. * * * The line for tunnel selected by Mr. Duvall was about the same line selected by Mr. Tenney and myself. Lines might vary a few feet from one another. Other lines were run to ascertain which was best line." (1951-2.)*

"\$13,000 to \$14,000 was expended during that summer. Upper Rawah Ditch was also surveyed in 1904. Final line was run and most of it cross-sectioned.

*The line finally selected was practically the same line selected by Beach in 1902. * * * It was practically the same line designed by me before survey in my first conversation with Mr. Akin. There was a great deal of construction work done in 1904 outside of surveying. * * ** (1953-4.)

*"Work was done" (in 1904, prior to any construction on the Upper Rawah Ditch) "on floor of Laramie Valley nearly level with west portal of tunnel. * * * It was so constructed that water flowing from the west side collection ditch, as well as from Upper Rawah Ditch, would be carried across and into the tunnel. First clearing in any part of the project was on east fork reservoir and next clearing was on this ditch line from West Fork to the tunnel.*

It would be impossible to take water diverted or carried by this East Fork Reservoir or the ditch from the West Fork of the Laramie River to the tunnel out of the Laramie Valley by any other means than by a tunnel. It was impossible to take it out by the Skyline or any other canal." (1954-5.)

The East Fork Reservoir was located just above the present tunnel reservoir of the system, the latter having been substituted for the same purposes for which the East Fork Reservoir was originally planned. (1845.)

The first actual construction on any of the several units of

the system is naturally indicative of the original intent of the parties.

*"First work of construction following any surveys on this entire mountain system, exclusive of road work, was done on East Fork Reservoir and on line of ditch leading from West Fork of Laramie River to west portal of the tunnel. * * * This was first work along any surveyed line. * * * I mean work of excavation done on the ditch, the survey of which had been located and cross-sectioned by engineer."* (1958-60.)

Mr. Link further said:

"The cost of the work which I had planned was estimated at about \$2,000,000." (1988.)

"We had an arrangement with the owners of the Sky-line Ditch to carry our water for a percentage. About 130 second feet had previously been carried through their ditch, which was practically its capacity, and we had no arrangements for its enlargement. During the flood period in May and June the owners of that ditch had enough water to fill it and would have none of our water carried through it during that time." (2002.)

Of the original project:

"I am familiar with File No. 1417 (State Engineer of Colorado), made in name of Myron H. Akin in May, 1904, covering the tunnel, the East Fork Reservoir and other portions of this system. At the time this was made, the two lower supply ditches were contemplated, but surveys had not been commenced.

*Filing No. 1722, made October 6, 1904" (Defendants' Exhibit 51) " * * * was made on behalf of our association. It shows the tunnel, the West Side Supply Ditch, the East Side Supply Ditch and the Upper Rawah Ditch, and was made for the purpose of combining our entire project as then contemplated."* (2014.)

"That is the same filing identified by Mr. Duvall and pertaining to surveys made by him. This map does not pretend to show anything else than surveys made by Mr. Duvall.

*Filing No. 1417 (State Engineer's office number), pertained to Mr. Tenney's survey and the contour line of East Fork Reservoir. * * * The tunnel line is Tenney's survey. If the East Fork Reservoir is omitted from Exhibit 51, it does not signify that Mr. Duvall did not see the reservoir. I do not know whether he did any work on it.*

Actual cost of construction is the true gauge and not estimates of engineers. Estimates have nothing to do with the real cost, as we found out." (2029.)

"I was the explorer in a sense. The forerunner of the proposition and directed where those lines should be run. *If we could not have made our objective point, the tunnel, from those streams, then it would not be feasible.*" (2020.)

Mr. Akin :

"Mr. Tenney began his survey March 12, 1904, on the tunnel. 'Defendants' Exhibit 75 shows the R. Q. Tenney survey." (2046.)

"Was with the surveying party of Zac Duvall during most of the season of 1904. Have seen *Defendants' Exhibit 51*, known as *Duvall's map*. It shows *Upper Rawah Ditch and two gathering ditches*, the East Side Ditch and West Side Ditch * * * and the tunnel line. Mr. Duvall did no engineering work on other units or parts of the system than those shown on Exhibit 51." (2049.)

Of the first actual excavation on the system, Mr. Akin says :

"*First work done in 1904 was in construction of ditch from West Fork to East Fork of Laramie River and to tunnel.* In 1904 construction work was carried on on Upper Rawah Ditch. During period of construction of 1904, I was there nearly all the time, back and forth from Fort Collins. Have heard testimony of Mr. Duvall, and Mr. Link concerning construction work going on in 1904. They stated the facts in that regard." (2046.)

Zac T. Duvall, civil engineer, testified :

"*My first acquaintance with the Greeley-Poudre system was in 1904, when I was engaged as an engineer for the permanent location of the tunnel. Also had charge of permanent location of Upper Rawah Ditch. I ran preliminary lines for East Side Collection-Ditch and West Side Collection Ditch. R. Q. Tenney of Fort Collins, Colorado, preceded me in laying out the preliminary lines for the tunnel. Mr. Beech had preceded me in the preliminary surveys of the Upper Rawah Ditch.*" * * *

I was under the immediate direction of Wallace A. Link while engaged on the work. *I began work on the Laramie-Poudre tunnel of the Greeley-Poudre system May 23, 1902. I found evidences of preliminary survey*

which had been made by R. Q. Tenney. *I did not vary to any considerable degree from that preliminary line.*" (1882.)

"I also located the inlet ditch for the tunnel from the West Fork of the Laramie River across the East Fork and into the tunnel.

Plaintiff's Exhibit P" (identical with Defendants' Exhibit 51) "represents the survey I made during the season I was there. It indicates nothing else than the surveys made by me. The *tunnel line* located on the map is the one finally selected by me. *The inlet ditch of which I spoke is located on this map. * * * This ditch was constructed to carry water from the West Fork to the East Fork and to the tunnel. The waters of the Upper Rawah Ditch are discharged into the West Fork and down that stream and into this inlet ditch and then into the tunnel.*" (1884.)

"In addition to locating the *inlet ditch* from the *West Fork* to the *west portal* of the *tunnel*, I constructed about 500 or 600 feet from the *canal* and *turned water in* from the *West Fork* of the *Laramie River* *June 10, 1904.*

That was the first actual excavation work on any part of the Laramie River system. Water ran through that portion of the inlet ditch which we constructed from the West Fork.

*After constructing this portion of the ditch, I went to the outlet end of the Upper Rawah Ditch and commenced permanent location of that canal to Rapid Creek, so that the right of way could be cleared for excavation and afterwards continued the survey through to Rawah and McIntyre Creeks. The line thus permanently located by me was practically the same from the outlet end of the ditch to Rapid Creek as the line located by Beach. * * * So far as diversion of water is concerned, the line I selected is practically the same as that laid out by Beach.*" (1885.)

"The Upper Rawah Ditch which I have located was designed to gather water in the higher elevations northwest of the West Fork and we could either carry it through the Sky Line Ditch into Chambers Lake or down the West Fork into the tunnel." (1901.)

"I completed the engineering work on two lower collection ditches on October 1, 1904. I worked on these ditches during August and September, after leaving the Upper Rawah Ditch and completed both surveys, one on east side and one on west side of Laramie River.

* * * These two ditches together constitute what is

now called the Lower Rawah or West Side Collection Ditch and the East Side Collection Ditch." (1891.)

"I have been on the ground since the tunnel constructed by the Greeley-Poudre Irrigation District and the Laramie-Poudre Reservoirs & Irrigation Company was completed. The line of tunnel thus completed is the same as the line of tunnel indicated on the map, Plaintiff's Exhibit P." (Same as Defendants' Exhibit 51.) (1885.)

"Plaintiff's Exhibit P represents work done in the year 1904. I did not assume to represent any other work done by any other engineer prior to that time." (1891.)

"Estimated capacity of tunnel I located and designed was 1,000 cubic feet per second." (1892.)

Charles R. Hedke, civil engineer, to whose supervision was entrusted the construction of the Greeley-Poudre enterprise, says, in part, as follows:

*"My first acquaintance with the Greeley-Poudre project in the Laramie Valley was in 1904, when there was under consideration a diversion of water from the Laramie River to the Cache la Poudre River by means of a tunnel. The matter was brought to my attention and discussed. Persons working on the project consulted me at that time. I began active operations in connection with that system in 1905. * * **

My work in 1905 consisted of a general analysis and special detailed surveys as a means of applying the water from the Laramie River to lands in the Cache la Poudre Valley, and also work in connection with the settlements between the contractors and the owners of the Laramie River system, upon work done on the Laramie River system in the year 1904, upon the unit of the Greeley-Poudre system now called the Rawah Ditch. It is sometimes called the Upper Supply Ditch, and is situated on the west side of the Laramie River Valley at an altitude of about 10,500 feet, and work had been done the years previous and the contractors were forced to go out of the country on account of the snow, and final and complete estimates were not made that year but were completed and made by me in 1905. * * *

The work performed to that date was of a very good character. Very good class of mountain ditch construction. Between 4,500 and 5,000 feet of mountain ditch construction had been completed at that time. * * *

There had been actual construction done before I became associated with the project. * * *

The 1904 work had progressed under the direct supervision of Mr. Zac T. Duvall, an engineer of Denver, Colorado. In 1904 some work had been done by Mr. R. Q. Tenney of Fort Collins, prior to the time that Mr. Duvall was employed." (1743-4.)

Speaking further of the tunnel and collection ditches, therefore surveyed by Tenney and Duvall during the year 1904 and constructed 1905-11 under the direction of Mr. Hedke, he says:

"The final line of the tunnel was placed on exactly the same line that I found surveyed in 1905, after all possible other considerations had later been taken into account. That was the line of the Duvall and Tenney surveys.

The collection ditches of the present system were outlined at that time. Minor changes, due mostly to the size and character of the enterprise and the existing conditions, and also brought about a better class of construction than originally contemplated, have been made.

The system as a whole is the same for all practical purposes." (1747.)

Speaking further of the tunnel, he says:

"Tunnel may be considered most important unit of the system. It is the means of diverting water through the divide between the watersheds and is very important. Tunnel completed August, 1911." (1778.)

"The tunnel was actually constructed on the lines shown on the map filed October 6, 1909" (Duvall map, Defendants' Exhibit 51), "and not on lines shown by subsequent maps." (1843.)

*"It is a fact that the construction of the tunnel was the culmination of efforts beginning with Link and Akin and early designated by Tenney and Duvall surveys. There is no substantial departure from the original idea. The other surveys * * * were the necessary investigations * * * and further analysis of the entire system, and as each part was done it was filed upon and rights protected as much as possible. They represent in record form the various sidelights upon the enterprise.*

At no time was the tunnel plan abandoned. We never had an investigation that suggested the possible

abandonment of the tunnel. It was so apparent almost on its face, owing to the natural conditions, that it was very hard to figure out any means whereby the tunnel would be improved on. * * *

When I have been speaking of the Duvall map, I refer to Plaintiff's Exhibit P, being map of 1904, No. 1722." (1866.)

The system of today is the system surveyed in 1902-4:

*"In 1905 the plan of this project as previously made by Mr. Duvall was outlined to me and the system as constructed is substantially the same as was contemplated in that plan. The tunnel as constructed is on exactly the same line as was used by Mr. Duvall, at the west end, with a slight variation at the east end. * * * There was no change in the location of the tunnel from the location shown on the maps filed in the office of the State Engineer."*

Finally, in speaking of the various filings made in connection with the maps filed in the office of the State Engineer of Colorado, he says:

"The various dates mentioned on the various maps as the dates of commencement and indicated on Exhibits O and T, inclusive, indicate the dates of actual commencement on that portion of the works. In each case the date was noted on which we started surveying each portion. These dates do not indicate the date on which the first survey was begun on the system. All surveys were done upon the same general system." (1873.)

The extensive work constructed both upon the plains and in the mountains during 1907-8 has already been reviewed. Of the work on this canal, Mr. Hedke says:

"The work performed on Upper Rawah Ditch during 1907 was a part of the general work going on over entire system. There was other work going on at that time on plains division." (1767.)

The reason for the change of construction forces from the Upper Rawah Canal to the lower canal after 1908, is thus given by Mr. Akin:

"Plans for constructing the remainder of this Upper Rawah Ditch, adopted subsequent to 1907, were that

after 1908 they started construction work on the tunnel and the two collection ditches in the valley, the one from Deadman and the one from Rawah, and *it was decided that we could do the remainder of the construction work on the Upper Rawah Ditch cheaper with maintenance crews than we could by putting gangs up there and keeping them there.* After we could get the rest of the system running, we could put our maintenance men up there and have them there in case there was any break in any of the ditches, and at the same time keep them working at construction work on the Upper Rawah Ditch, back to McIntyre Creek.

There never was any intention of abandoning the Upper Rawah Ditch. That ditch is an essential and necessary unit of the system. It has been carrying and discharging into the West Fork of the Laramie River since 1904." (2059.)

Very evidently none of the very expensive and difficult construction upon the Upper Rawah Ditch of 224 cubic feet capacity would have taken place had the Sky Line Ditch been considered the permanent outlet to the Poudre Valley for this Upper Rawah Ditch. Mr. Link said:

*"The carrying capacity of the Sky Line Ditch is about 130 cubic feet per second. * * * I had no purpose to enlarge this Skyline Ditch, nor right to enlarge it in any of my plans. I could not have used that canal in any year, either temporarily or otherwise, until the ditch was fully open to the headgate."* (Referring to open from snow and ice.)

"This canal is burdened to its full capacity until July 15th of each year and we could not have obtained carrying capacity in that ditch prior to that date. After that date it might have been possible for them to carry some other water. We would never have been able to obtain carrying capacity to its full capacity. They would always have 30 feet of water in their ditch from the West Fork.

All the water that we were intending to carry in the Upper Rawah Ditch would be carried through the tunnel to the east side.

Upper Rawah Ditch was built to carry 200 cubic feet per second. It was planned to do that. *Waters of that ditch, when running to its capacity, would not be carried except as to a minor portion, through the unused capacity of the Sky Line Ditch. This carriage could*

only have occurred in a small part of the irrigation season, just a short time in the summer.

It was not our plan to use the Sky Line Ditch as a permanent means of carrying water of the Upper Rawah Ditch.

We would not have built the Link Lake Ditch (or Upper Rawah Ditch) to carry 200 cubic feet per second when we knew that the company owning the Sky Line Ditch would not enlarge their ditch. We did not feel that it would be possible to enlarge their ditch to carry the water on account of the kind of construction involved. * * * The water that we could gather in the Upper Rawah Ditch and carry through the unused capacity of the Sky Line Ditch would not bring sufficient return to warrant all the construction work necessary on the whole system I have described." (2021-3.)

Of the completion of this Upper Rawah Ditch and its capacity, Mr. Akin, who had been actively associated with the enterprise from the opening of 1902 until the taking of testimony, said:

"We got excavation along line of Upper Rawah Ditch entirely completed to point above Rapid Creek. There are portions above Rapid Creek and towards Camp Lake where the work is finished. Right of way is cleared of timber to Camp Lake.

Capacity of ditch as completed from Rapid Creek to West Fork of Laramie River is 22½ cubic feet of water per second of time." (2058.)

"Work was done on this ditch subsequent to 1907."

Statement by counsel for plaintiff (page 25, brief) that the Upper Rawah Ditch is "of little or no value" to the Greeley-Poudre system and that the lower or west side collection ditch now in process of construction serves all the purposes of the Upper Rawah Ditch is not borne out by the testimony. Mr. Link said:

"The West Side Collection Ditch" (referring to the lower west side canal) "was included in the plan perfected by me and, as constructed, *does not perform all of the duties which would be performed by the Upper Rawah Ditch.* The seepage on the mountain sides is very great and it is always advisable to turn the water into a natural channel as soon as possible, and a large part of the water caught by the Upper Rawah Ditch would be lost if not picked up by the West Side Ditch.

* * * We did not contemplate a smaller upper collection ditch on the east side because the mountains were lower, causing a smaller run-off tributary to such an upper ditch, and there are a great many canons making the cost of construction excessive.

I would have constructed the Upper Rawah Ditch under any circumstances." (2003-4.)

"If the Upper Rawah Ditch had not been constructed, then the west side or lower collection ditch should be built to a much greater carrying capacity than now planned.

It is far more feasible considering the mountain conditions in that vicinity to build the two ditches on the west side of the river as now planned, than it would be to build one ditch where the lower ditch is constructed, and of sufficient capacity to handle the water now carried by both ditches.

It is much safer to divide the capacity in the way it has been done. By this means more water is captured, conserved and conveyed to the point desired and a great deal more rapidly than it would be on the single line lower down.

*Then you have two capacities instead of one. If one should break, the other would be working. * * **

All these matters were considered and talked over with my associates when we commenced construction of this upper ditch. Mr. Akin and I met with considerable opposition with regard to this upper ditch, but we insisted on constructing this upper ditch because our knowledge of conditions was superior to that of our associates.

Following the plan advocated by myself, work was done on the Upper Rawah Ditch first. That was in 1904 and continued in 1907. This upper ditch was sold later to the Greeley-Poudre Irrigation District." (2024-5.)

(Mr. Link sold out his interest in the system during 1906 and was not interested thereafter.) (1965.)

Further quotation along this line seems unnecessary. The Upper Rawah Ditch, one of the collection ditches of the Greeley-Poudre system included in the initial plans of the tunnel enterprise, was never proposed as a mere extension of the Sky Line Ditch of The Water Supply & Storage Company. That carriage through the Sky Line Canal of a small part of the large quantity of water conveyed by the Upper Rawah Ditch might be made during the period of construction of the tunnel and that such possibility was in the minds of the men who actually initiated, planned and aided in the construction of the tunnel enter-

prise cannot be doubted, but to argue that these men would deliberately construct the large Upper Rawah Canal at an enormous expense in order that a small part of its waters might possibly be (though never were) conveyed through the Sky Line Ditch, is as unreasonable as the general argument advanced by counsel that all of the labor and painstaking surveys and extensive construction upon the Greeley-Poudre enterprise in the six years beginning with 1902 were without definite plan or object.

It may not be amiss to here suggest that Wallis A. Link, whom counsel for complainant term "a small ranchman" and A. I. Akin, whom they designate merely as "a neighboring farmer," nevertheless were men of enough resourcefulness and creative genius to plan the Greeley-Poudre project. Eminent engineers later made the most exacting surveys to ascertain the best method of constructing this great enterprise, which Professor L. G. Carpenter describes as an "engineering feat worthy of the attention of the best engineering talent," (1405) and each engineer finally approved and accepted the general scheme and plan conceived in the first instance by these two men.

Not only were these men able to plan, but they were equally able to thereafter supervise and direct the early construction upon the project. Engineer Duvall states that all of the extensive work of 1904 was under the direct supervision of Mr. Link, and Mr. Akin continued his intimate relations with the construction of the enterprise from the beginning to the day of the trial.

Nearly all of the great mines of the United States are the discovery of lowly prospectors, many of whom have subsequently become the directing minds in the development of their projects. The continuity of plan, purpose and effort of these two men and their subsequent associates and successors is probably without a parallel in the history of Colorado irrigation enterprises.

It is but natural that junior appropriators should seek, as in this case, to describe initiation and construction of an enterprise such as the Greeley-Poudre over the first six years of its existence as "intermittent" (p. 22) and "desultory" (p. 78), in order that as little credit as possible may be given. The evidence is unanimous in its declaration of the continuity of activity upon the enterprise from 1902 down to 1908, at which time the recent large Wyoming enterprises were first commenced. The activity in Colorado, instead of being "desultory" was directed to the construction of a system on the one general original plan and all the labor and money was expended in order that the system might be completed along the best lines of construction with all possible dispatch.

Before considering the Wyoming appropriations, we suggest:

That the map, Exhibit B, attached to the bill of complaint, is manifestly in error in that no notation of the Upper Rawah Ditch appears thereupon, and, further, in that the courses of the streams and the location of other natural objects are incorrectly noted. We believe that all parties to the record generally admit that the map, Defendants' Exhibit 1, attached to the answer of corporate defendants, is more accurate and complete.

The Laramie River does not rise in the Continental Divide, as stated by counsel (p. 14). On the contrary, the principal tributaries of both the Big Laramie in Colorado and Wyoming and the Little Laramie in Wyoming have their rise in the Medicine Bow range of mountains, which is the range described on page 16 of counsel's brief as having an average elevation of about 10,000 feet, and the record shows that the snow-capped peaks of this range, at the head of the Little Laramie River, are substantially of the same general height and character as those at the head of the Big Laramie in Colorado. Between these two groups, the Medicine Bow range in both states does not attain the elevation that it does at the points mentioned. The Cache la Poudre and North Platte rivers rise in the Continental Divide and the former stream receives part of its water from that portion of the Medicine Bow range between the headwaters of the Laramie and the Continental Divide.

The reservoirs and canal mentioned on page 24 of complainant's brief are described by engineer Hedke (1759-61). The surveys of this reservoir and canal were but collateral to the survey of the general enterprise and were no departure from the original tunnel project. Of these surveys Mr. Hedke, under whose supervision they were made, says:

"Surveys of Laramie River Reservoir were completed, but it was separate and apart from the system commonly called the 'Greeley-Poudre system.' It was surveyed and mapped as a subsequent and junior enterprise * * * in 1906." (1766.)

Bearing in mind the survey of and extensive construction upon the Greeley-Poudre enterprise subsequent to its initiation on August 25, 1902, and particularly during the years 1903-8, all prior to the initial surveys upon the later Wyoming projects, to which we shall next refer, and that under the rule of priority, if the same were to obtain without regard to state lines, the rights of all junior appropriators from the Laramie River vested subject and inferior to all appropriations theretofore initiated upon the stream, we will now consider diversions from the stream in Wyoming.

IV. WYOMING APPROPRIATIONS.

In considering appropriations of water from the Laramie River in Wyoming, we should first note the contrast of natural conditions surrounding construction in Wyoming with that in Colorado, to give proper credit, under the rule of reasonable diligence, to the efforts of appropriators in the two localities and to prevent undue credit for what might otherwise appear to be speed or rapidity of construction in any one locality.

(1) The Region.

It is conceded by all parties to this action that the Laramie Plains have an elevation of from 7,000 to 7,500 feet. The Laramie River portion of the Greeley-Poudre system now in process of construction in Colorado is situate at a much higher elevation.

All the enterprises upon the Laramie Plains here involved (save the inter-mountain Bell Supply Canal No. 2) are within a plains or prairie region, in contrast with the mountain district in Colorado. This Laramie Plains construction consists of mere prairie earth and loose gravel excavation, easy of performance and with longer working seasons in a country so favorably situate, so uniformly smooth, and with so few natural obstacles, that nearly all of the work has been or can be performed with drag-line and steam shovel equipment, the use of which would be impossible in the mountain region of the Greeley-Poudre system. With the possible exception of James Lake, none of these new systems are complete, as erroneously asserted by Wyoming counsel (p. 78, brief).

The ease of construction in the plains region and the difficulty in the mountains is conceded by all witnesses. As stated by Mr. Hedke:

"A ditch of same capacity on plains as our mountain ditches would cost in the neighborhood of \$1,000 per mile. Up in the mountains it would cost \$30,000 per mile, and a mile of plains ditches can be built in a matter of several weeks, while a mile in the mountains may take a year, taking nearly all the men you can get on that mile to do it in one season's work." (1777.)

Mr. Sevison, the engineer who made the principal surveys on the Laramie Plains, says:

"The country between Lake Hattie and the river is very easily surveyed. Most of it is across a tableland that is quite uniform. * * * The ditch follows the line which would be run by a level. There is no tunneling or heavy cutting with but the one exception where

you go through the arm of the bluff. * * * I had an unlimited field in which to work, without any obstacles." (654-5.)

"All work on the main outlet canal, and on the north and south canals, was the ordinary small ditch building,—entirely plain earthwork, no tunnels or rock work or flumes or anything of that sort. *The whole Lake Hattie System was one of remarkably small cost and economical construction.* At no place in the entire system did we encounter any difficult engineering problems." (660.)

The contrasts between the two regions are strikingly drawn in the testimony of witnesses Lyman E. Bishop, the engineer on the Lake Hattie project who succeeded Mr. Sevison (793-6); Professor L. G. Carpenter (1404-5); Engineer John R. Wortham (1619); Engineer Charles R. Hedke (1777-9); Engineer Zac T. Duvall (1895-7); Wallace A. Link (1920-3, 2076-8) and A. A. Edwards, irrigation expert (2239-40.)

The District Court of Larimer County, Colorado, having before it the adjudication of priorities in the Laramie River region in that state, took notice of this contrast between plains and mountain construction and in its decree (Defendants' Exhibit 179), wherein it fixed August 25, 1902 as the priority of the Greeley-Poudre system, says:

"All of the construction involves tunneling and excavation through mountains and along the steep mountain sides on either side of the Laramie Valley, *requiring a greater period of time* in the completion thereof than would be required to complete an enterprise of like proportions situate under and surrounded by ordinary conditions. All supplies, machinery and labor must be transported by teams for a distance of from seventy to one hundred miles, in large part over mountain roads, from either Laramie, Wyoming, or Fort Collins, Colorado, under conditions least favorable to economical transportation.

Owing to the altitude, climatic conditions and geographical location of the system, the working season, during which men may be engaged in other than tunnel construction, and the season of transportation of freight, are limited to a short period of from three to four months out of each year. The remoteness of the works from railroads, towns, cities, and labor centers, makes the obtaining of laborers difficult, and requires payment of high wages and maintenance of expensive accommodations. The construction throughout is of hazardous character, requiring the use of dynamite, powder and

other explosives and the services of a class of laborers hard to obtain and easily dissatisfied. The shortness of the working season requires a total disorganization of the entire laboring force at the close of each year's work and complete reorganization the next succeeding year.

The foregoing and many other obstacles unknown to construction of irrigation works in plains or prairie regions or in regions of better climatic conditions and geographical location, *require longer periods of time than would otherwise be necessary, reasonable diligence being a question of years as compared with months under ordinary conditions.*" (Pages 5 and 6, Exhibit 179.)

In the *Wheatland area* on the east side of the Laramie Mountains or Black Hills, the easterly border of the Laramie Plains, construction is even less difficult than in the Plains region, as the district is of lower altitude with somewhat longer summers and better general working conditions.

(2) ADVANCE FINDINGS AND DETERMINATION OF QUESTION OF PRIORITY AND WATER SUPPLY IN WYOMING.

A review of the methods of initiating Wyoming appropriations and the legal effect of the decisions of the State Engineer by granting or refusing permits is essential to a clear understanding of the subject under consideration.

In Wyoming an appropriation is *initiated* by the filing of an application for a permit. This is prerequisite to construction, enlargement or extension of any ditch or diversion system or to performing any work in connection therewith. The state engineer endorses on the application the date of its receipt and notes the same in the records of his office. He then, sitting as a quasi-judicial officer, determines (1) whether or not there is any unappropriated water in the stream which will be available for the proposed project, and (2) whether the proposed use conflicts with existing rights or (3) threatens to prove detrimental to public interest. He has full power to reject the application and thus forbid the appropriator to proceed with the construction of the enterprise.

If the state engineer officially determines *that there is unappropriated water in the stream from which the proposed diversion is to be made, and that the proposed use does not conflict with existing rights* (and is not detrimental to public interest), he grants permit for the construction of the enterprise and the appropriator may thereupon (not theretofore) proceed in conformity with the conditions and limitations set forth in the

permit. Priority dates from the filing of the application in the State Engineer's office.

This procedure is in direct contrast with that in Colorado where the appropriator determines for himself whether or not there is unappropriated water and whose filing with the state engineer is a mere record and does not move that officer to determination of any question in advance of construction. He proceeds to construct as he may be advised and the first official determination of his rights is the decree of the District Court in adjudication proceedings brought for determination of the relative rights of all appropriators from the stream. If the appropriator has used reasonable diligence, his priority is decreed by the Court as of the date of initiation of his appropriation, whether by beginning of survey or commencement of actual construction.

In Colorado all rights of the appropriator are determined after and not before initiation, while in Wyoming the converse is true.

In other words, the State of Wyoming, by and through its quasi-judicial tribunal, the State Engineer, *officially determines certain facts in advance* (1) of permitting any rights of appropriation to attach or (2) any construction to proceed. He officially finds and determines *whether or not there is water to appropriate* and to what degree and in what manner construction may proceed and the law fixes the date of appropriation as the date of the filing of the application for the permit, thereby *also fixing in advance the priority* date of each diversion. This judgment of the state engineer binds the appropriator and the State as well.

On the other hand, in Colorado, experience alone demonstrates whether or not there was unappropriated water in the stream for the enterprise at the time of its initiation and the proof submitted moves the court to the decree which determines the relative priority and extent of each appropriation.

The Wyoming statute was enacted in 1895 and any and all appropriations of water from the Laramie River in that State, during or subsequent to that year, were made only by authority or permit of the state engineer.

Each of these permits were and are quasi-judicial decrees in effect as follows:

(1) That there was ample water supply for all diversions and initiated appropriations from the Laramie River;

(2) That after supplying all such prior appropriations, there remained surplus or unappropriated water in the stream which was available to the new projects;

(3) That the appropriations for which applications were made in no manner interfered with existing appropriations or were detrimental to public interest; and

(4) That all parties granted permits for the Laramie River and tributaries might safely proceed to construct their works to the magnitude and extent set forth in the permits. (3910-19.)

(3) Priority Groups and Natural Classification.

All these appropriations from the Laramie River and tributaries in Wyoming may likewise be considered in three general groups:

(a) Meadow appropriations in the mountain districts near the sources of the Wyoming streams.

(b) Those from the Big and Little Laramie Rivers and other tributaries upon the Laramie Plains, and,

(c) Those east of the Laramie Mountains (Black Hills) and in the Sybille and Chugwater drainage areas.

The Wyoming diversions from the Laramie River fall within two groups or epochs, those prior and those during and subsequent to 1907-8.

We are here considering the priority of the Greeley-Poudre system on the Laramie River in Colorado as compared with the later appropriations in Wyoming, and the discussion is simplified by separating the epochs of the Wyoming appropriations as either prior or subsequent to August 25, 1902 (the date of the Colorado diversion), rather than the year 1908, no new enterprises of any magnitude having been initiated in Wyoming between 1902 and 1907-8.

(a) Meadow Ditches.

The observations under this sub-head of the principal topic, "Appropriations," will here obtain. In other words, the small diversions for the irrigation of meadow lands along the narrow valleys in the mountain districts of both the Big and Little Laramies in Wyoming and Colorado are considered insignificant and offset one another.

(b) Laramie Plains Appropriations.

Within the general priority classification above noted, diversions from the Big and Little Laramie Rivers and other tributaries of the stream in the Laramie Plains region may be further subdivided into three general groups:

Those canals irrigating the river bottoms or first benches along the streams;

Those canals which have been constructed for a long period of years for the irrigation of bench lands, and

The newer enterprises involving the utilization of large natural and artificial reservoirs in process of construction for service of the higher lands of the area.

(b-1) Appropriations Prior to August 25, 1902.

All appropriations within the first two of the last mentioned groups are prior to August 25, 1902, while those in the last group are long subsequent to August 25, 1902, and were generally commenced subsequent to March, 1908, and some of them as late as during 1912, after the filing of this suit.

All of the appropriations initiated upon the Laramie Plains prior to August 25, 1902, had copious supplies of water in considerable part permitted to pass unused after the needs of these earlier canals had been supplied. The State of Wyoming has repeatedly so declared and decreed through its State Engineers by granting permits with new priorities for new enterprises since 1908. So ample has been this supply that no care or supervision of distribution had ever been necessary prior to filing the bill of complaint herein, and all appropriators have been permitted to help themselves to whatever water they chose to divert, even then leaving sufficient in the river to justify the State Engineer in awarding new priorities for new enterprises of great magnitude.

(x) River Bottom Canals.

The earliest irrigation in the region, naturally following the lines of least resistance, was entirely from numerous canals easily constructed for irrigation of the river bottom and first bench lands of the river valley proper (486, 561-2). These canals were constructed for the irrigation of native hay meadows and utilized the water only up to the last of June and never later than July 15th of any year (561-2). Water Commissioner Grant of Wyoming, the first official to ever assume to attempt a careful distribution of water, beginning with the year 1913, testified that a large number of these older ditches are "two story" or "high water" ditches, meaning that at the several points of diversion, the bottoms of such canals are considerably, and in some instances several feet above the bottom of the river, making it physically impossible for the canal to receive water except in times of flood and evidencing the fact that these canals had been constructed and always used for diversion of water from a stream with flow greatly in excess of the demands of all appropriators and not requiring diversion during low flow. A reading of the record will reveal but few declarations to the effect that these canals were ever "short of water," and in each instance the witness admitted that there was ample water in the stream and no difficulty would have been encountered in obtaining sufficient to supply his wants had his canal been properly constructed.

By these smaller canals flood waters are diverted and spread over the meadows in such a manner as to form one con-

tinuous sheet of water, standing upon and to some degree circulating over the land between the canals and the river. This method of irrigation still prevails from the time the canal is opened in the spring until closed in early July to permit the meadows to dry before the hay harvest begins. Doubtless a portion of the water thus diverted returns to the stream and is again used by other appropriators lower down, but that enormous loss occurs through evaporation and that the method is extravagant and wasteful is not seriously questioned.

Among these ditches may be mentioned the several canals used to irrigate the Sodergreen Ranch; the King, Riverside Ditches No. 1 and No. 2; Caldwell and Gardiner, Bush and Holliday, and other canals used for the irrigation of the Riverside Ranch; the Hoge and Haley, Leroy and other ditches used for the irrigation of the Hoge ranch, situate just above the mouth of Sand Creek; the Mansfield Ditch; the Dowling or Bilderbach Ditch, used to overflow a portion of the old Hutton and Hart ranches, and the Oasis canal for the irrigation of meadows belonging to that ranch, all diverting water from the Big Laramie River; the Gillespie, Boughton, Cooper Lake and McGill Ranch ditches on the main Laramie below the confluence of the two principal branches; and the canals for the Millbrook, Alsop and Ernest Ranches, and the other numerous canals used to overflow the broad flood meadows of the Little Laramie region.

This general class of ditches served the greater portion of the acreage under irrigation in Wyoming before the commencement of this suit. After taking their full measure and flooding the Big and Little Laramie valleys with one continuous sheet of water, there still remained ample water to warrant the construction of newer canals for irrigation of higher lands and it is unnecessary to enter the maze of a minute discussion of the list of these many early diversions, as the subsequent diversions in Wyoming, but prior to 1902, not to mention diversions in Colorado as of that date, have no appreciable effect upon the water supply of these river bottom canals.

(y) Early Bench Land Canals.

The second stage of earlier Wyoming development is evidenced by construction of canals for irrigation of bench lands arising above the river valley proper. These canals are larger but are likewise used primarily for irrigation of native hay land, with methods generally the same as those prevailing under the river valley ditches (866-7.) Practically none of the water from these larger canals returns to the stream, owing to the geological formation of the area, but flows or seeps into depressions, ponds and water-logged areas and in many instances is run

for long periods of time into lakes and depressions having no outlet and, in one instance, with bottom more than one hundred feet below the bed of the river. From these ponds, immense depressions and water-logged areas, the only escape for the accumulated water is by evaporation (489, 2739.)

The superintendent of the Pioneer Canal states that it has been his custom for long years to run from 50 to 60 cubic feet of water in the canal continuously from July 15 to December of each year for the sole purpose of supplying drinking water to about 2,000 head of cattle, running at large in that vicinity, and a few of the 250 people residing under the canal. One cubic foot per second delivers two acre feet every twenty-four hours, and it accordingly appears that it has been the custom of the Pioneer Canal management to run to waste 100 acre feet per day for 150 days (15,000 acre feet annually), in order to furnish drinking water for a few people and cattle in a region already filled with lakes and ponds. The witness states:

"The people and stock and seepage and evaporation consumed this 50 second feet running constantly. Very little water went back to the river or into the numerous lakes." (See Titus, 967-70.)

The same characteristics of diversion, use and waste apply to all these earlier bench land ditches, including those on the Little Laramie River. Some of these ditches are of considerable size and waste into ponds from which there is no outlet or opportunity of re-use of water for irrigation. The Poverty Flat and Park ditches both waste into Big Basin, a large alkali lake, the bottom of which is from 75 to 100 feet lower than the level of either the Big or Little Laramie Rivers in that vicinity. (2741.) During December, 1913, water was flowing through both the Poverty Flat and Park Ditches to about three-fourths of their capacity, and wasting into Big Basin under guise of so-called "domestic use," in this, one of the driest seasons experienced in the Laramie Plains region (2742.)

Among these larger canals, so constructed and utilized for diversion of water for some irrigation and great waste, may be mentioned the Pioneer Canal, Fischer, Last Chance and Parker ditches, diverting water from the Big Laramie River near Wood's Landing, some 75 miles (547) by river meander below the Greeley-Poudre tunnel (486-8, 492), and the Loback, Bellamy, Millbrook, Hecht, Hecht and Farrell, Poverty Flat and Park canals from the Little Laramie River.

The Pioneer Canal is alleged to have served as high as 18,000 acres during 1902 (863), but so unprofitable was the attempted agriculture under the canal that the acreage served in 1913 had fallen away to 11,556 acres (844) and but 250 people resided within the area served by it and the other men-

tioned canals diverting water from the Big Laramie River (872.)

This Pioneer Canal is alleged to have been constructed in 1879 or 1880. Its opportunity of diversion has been so unlimited that it has not only poured its copious supply over its grass lands and filled its waste lakes and ponds for annual loss by evaporation, but, in addition thereto, it has been permitted, without protest, to divert and waste annually 15,000 acre feet of the ample supply of water in the Laramie River after all necessity of irrigation in the region had passed. The decided contrast between this canal with its copious supply and prodigal diversions of water and the Larimer & Weld Canal (Eaton Ditch) in the Cache la Poudre Valley can best be comprehended by inspection of the albums of photographs taken within the two areas and introduced in evidence as Defendants' Exhibits 115, 116 and 120. See also photo albums, Defendants' Exhibits 119, 122. The more striking becomes the contrast when it is observed that the history of the Larimer & Weld canal has been one continuous contest for but a part of the water supply required to reclaim its lands, upon a stream administered under most rigid police supervision by river commissioners, as compared with the copious supply of the Pioneer Canal whose diversions have always been made without supervision or restraint, either in point of time, quantity or duration.

The above mentioned canals, diverting water from the Little Laramie River, have received as copious supplies as have the canals from the Big Laramie, and the enormous waste from all these diversions verifies the judgment of the State Engineer of Wyoming in declaring, by granting additional permits, that ample water is available for appropriation and diversion after the demands and claims of *all* prior appropriators have been supplied.

During 1913 a careful plane table survey of nearly all the irrigated lands in the Laramie Plains region (with the exception of some distance below the confluence of the Big and Little Laramie Rivers at Two Rivers) was made for defendants by an engineering party under the direction of the State Engineer of Colorado and the immediate supervision of his deputies, Engineers McAnelly and Woodhall. This survey occupied the entire summer season of that year, and its detailed accuracy is evidenced by defendants' Exhibit 114. A hasty reconnaissance, without instruments, was made of the same areas by the Laramie Water Company's surveyor, R. I. Meeker, with fairly confirmatory results. The lands served by the new enterprises initiated during 1908 and subsequently were likewise included in the totals of the acreage thus compiled.

This careful investigation reveals the fact that during 1913 there were but 78,999 acres of land irrigated from the

Laramie River and its tributaries in the Laramie Plains region, consisting of the lands served from the Little Laramie and its tributaries, and by canals diverting from the Big Laramie and its tributaries, and also from the main stream below Two Rivers and above Wheatland Reservoir (2790-1.)

The greater portion of this acreage was under irrigation and served by the old canals before initiation of either the Greeley-Poudre project in Colorado or the new Wyoming projects which we will later consider.

The granting of recent permits by the several State Engineers of Wyoming and the coincident decree that there was water supply in the stream, the large flow of the rivers as shown by the hydrographic data compiled by experts Prof. L. G. Carpenter, John E. Field and others, and the history of the entire Wyoming irrigated acreage as given by its own witnesses, are sufficient to justify us in concluding that the Greeley-Poudre enterprise, with its comparatively small diversion of but a part of the flow of the Colorado portion of the stream can work no substantial injury upon or interference with these older appropriations, the unnecessary and prodigious waste from which more than equals the sum total of the Colorado diversions. We will therefore pass all these older Wyoming canals without further consideration and will confine our discussion to the more recent enterprises, all of which were initiated long subsequent to the Greeley-Poudre system in Colorado, but which stand as accepted and approved appropriations within her borders by the complainant, State of Wyoming.

(b-2) Appropriations Subsequent to August 25, 1902.

The third and last group of the Laramie Plains diversions primarily includes several large reservoir enterprises. This period constitutes the third and last stage of Laramie Plains construction. It is the epoch of reservoir building. Following construction of the older canals, there was no important irrigation development on the Laramie Plains until about 1908. Prior to that year the region had contented itself with its existing diversions, carried on without the slightest supervision and with ample water both for use and waste.

During the spring of 1908, the Arnold Engineering Company of Chicago entered the field and commenced a series of surveys and at about the same time others of speculative tendencies undertook the promotion of new enterprises. The efforts of this engineering concern and those other parties whose activities were evidently awakened by its entry into the field, by various processes of consolidation, later took the form of two new systems, commonly known as the James Lake or Talmadge-Buntin system, and Lake Hattie or Laramie Water Company's system.

One small private enterprise was initiated immediately prior to the James Lake and Lake Hattie projects, and is known as the:

(m) *Sodergreen High Line.*

In November, 1907 (445), Oscar Sodergreen commenced the survey of a canal from the Big Laramie River at his ranch near Woods Landing at the upper extremity of the Laramie Plains. On December 27, 1907, he filed application for permit for the Sodergreen High Line Canal, and on April 14, 1908, it was approved by the State Engineer of Wyoming with priority as of December 27, 1907, and granted permit No. 8328. Construction was completed during 1910 (3962, 418, 445). The canal was constructed by Sodergreen for native hay irrigation on about 3,400 acres (2790), and was used without supervision and at its owners' will during the season of 1911 and 1912, and up to July 1, 1913. (446.)

No claim for earlier priority is made on behalf of the canal. Irrigation of native hay ceases with the close of the flood flow in the latter part of June and the early part of July of each year. This fact, coupled with the small acreage to be served, justifies passing this canal without further consideration.

(n) *Lake James System.*

The Seven Mile Creek drainage lies immediately adjacent to and north of the Little Laramie River. The creek flows down the Medicine Bow Mountains and, after serving a small acreage of meadow land in its valley, of nature discharges its waters into James Lake, a natural basin with no outlet save in exceptional years when the same overflowed and discharged into the Laramie River through the water course of Four Mile Creek, the next adjacent stream. It required the mere excavation of a cut through a narrow earth rim and installation of outlet works to convert this large natural body of water into an active storage reservoir. It is to a large degree filled with corresponding ease from the Little Laramie by extension and enlargement of the old Bellamy Canal, and naturally serves a large acreage easy of access by ditches constructed upon the open plains. The self-evident ease and economy with which the entire enterprise could be promoted and constructed, along with the equally available Lake Hattie Reservoir system which we shall hereafter consider, naturally appealed to eastern parties seeking opportunities of promotion, and accordingly Trowbridge and Niver of Chicago sent The Arnold Engineering Company into the field during the spring of 1908 and initiated the first and

initial surveys looking toward the ultimate construction of the scheme. (650.)

March 22, 1908, Z. E. Sevison, engineer for The Arnold Engineering Company, commenced survey on the James Lake project for utilization of the basin as a storage reservoir for water from Seven Mile Creek and also from the Little Laramie through an extension and enlargement of the Bellamy Canal. (638.) Wyoming admits that "the original surveys for the project were commenced on March 22, 1908," on page 75 of her brief. This admission, in turn, of necessity admits that all work by Sevison and his successors was junior to this date, as we shall hereafter observe. In due course, these efforts of Mr. Sevison were followed by filing of applications for permits for leave to construct the enterprise and praying investigation and approval of the water supply by the State Engineer of Wyoming. These applications were filed in the name of G. S. Speer of Chicago, having to do with the financial part of the project and in some way connected with Trowbridge & Niver, a brokerage concern promoting and selling irrigation district bonds in that city. (651.) In due course, the State Engineer of Wyoming adjudged that there was ample supply in Seven Mile Creek and the Little Laramie River, after supplying all prior diversions, to warrant the granting of permits, and accordingly, during May, 1908, issued permits Nos. 8385-9, and 1279 Reservoir to G. S. Speer, authorizing the construction of the James Lake system as of priority dates March 27, April 23, and May 1, 1908. (3962.)

On February 20, 1909, the State Engineer granted further permit No. 1872 Enl. to G. S. Speer to divert the water of Four Mile Creek into James Lake Reservoir, as of priority dated February 17, 1909.

Following the granting of the above permits, the Laramie Valley Irrigation District, commonly known as the "Talmadge-Buntin District," was promoted by Talmadge and Buntin (594-5, 631) with the idea of including in one project the river bottom lands on the east side of the main Laramie River below Two Rivers, theretofore served by the old Oasis Canal diverting water from the Big Laramie River, along with the new lands available for service by the outlet canals to be constructed from the James Lake Reservoir. This district was surveyed as a part of the general project by Mr. Sevison during the earlier part of 1908. (608-9.) He made a topographic survey of the lands under the Oasis Ditch as well as those under the old Cooper Lake Ditch which were likewise absorbed into the general scheme. (619-22.)

Construction followed survey and general organization of

the scheme. The old Bellamy Canal was enlarged and extended to fill the reservoir from the Little Laramie River, and the reservoir was constructed to a capacity of 41,100 acre feet. (632.) The outlet canals were constructed. The feeder ditch from the river to the reservoir was not completed until 1911, but was sufficiently complete to turn some water through during 1909. (634.) About 18,000 acre feet of water were stored in the reservoir during 1909 and about 10,000 acre feet in 1910. (635.) About 30,000 acres of land were included in the project on the west side of the river and intended for irrigation from the reservoir. (543.) During 1909 many settlers occupied a portion of the land, but in 1912 there were only about half as many settlers under the project as there were in 1909 (644), and in 1913 only a small portion of the land theretofore plowed was in cultivation and the whole project was practically abandoned, although there was ample water for their irrigation.

Subsequent to the original permits, the State Engineer issued further and additional permits, Nos. 8874, 1971-2 Enl., and 2325-6 Enl., from the Big Laramie River through the old Oasis Canal and from the Little Laramie River by way of the Bellamy and James No. 1 Canal. These permits were issued to The James Lake Irrigation Company, the successor of G. S. Speer, the original promoter, and have priority dates as of May 6 and November 24, 1908, and November 19, 1910. (See Table 3962, p. 1174 Abstract.)

All of construction authorized under these permits was certified and recorded as completed in the office of the State Engineer during the years 1909 to 1912, inclusive. (3962.)

A close analysis of the priorities of the project requires a consideration of each of the aforementioned permits with its respective priority date, but for convenience we shall treat the entire project as entitled to priority of date of beginning of the initial survey, March 22, 1908, rather than March 27, 1908, the date of filing of the first application for permit, for better comparison with the Colorado priorities, which date as of the commencement of survey or construction, which method we shall likewise follow in dealing with the many other surveys which we will hereinafter consider.

Of all the new projects constructed in Wyoming, the James Lake System probably involved the least expenditure of time, labor and money. The natural reservoir needed but little work to convert it into an immense storage basin, while all excavation was of mere prairie earth, and easy of access to a trans-continental railroad.

Almost six years from August 25, 1902, had elapsed before the Trowbridge & Niver brokerage and promotion company of Chicago caused The Arnold Engineering Company to send Mr.

Sevison into the Laramie Plains to begin his survey of the James Lake enterprise (also Lake Hattie system). This survey commenced on March 22, 1908, was of the same initial character as that commenced by Engineer Beach on August 2d, 1902 on the Greeley-Poudre system, and in no part of the record is there any assertion that any previous survey of the James Lake system had ever been made or even contemplated, but, on the contrary, Mr. Sevison asserts that he went upon the enterprise under exclusive direction of the foreign promoters then entering a new field for the purpose of initiating, planning, promoting and constructing this and the other enterprise.

This was the first and earliest of all the new reservoir projects upon the Laramie Plains. The Lake Hattie Reservoir follows immediately thereafter with others still later, but with the initial survey on March 22, 1908, the new epoch of construction opened within this region, and not before.

(c) *Laramie Water Company or Lake Hattie System.*

Trowbridge and Niver of Chicago, not content with the promotion of the Lake James enterprise, included the greater part of what is now called the Lake Hattie system in their field of investigation and promotion during the spring of 1908.

This work was likewise placed in the hands of the Arnold Engineering Company of Chicago, and under the immediate direction of Engineer Z. E. Sevison, who says:

"From March 22, 1908, until September 1, 1909, I was resident engineer for the Arnold Company on all their work here," (referring to the Laramie Plains) "including the James Lake project and the Lake Hattie Project." (605.)

Mr. Sevison performed the initial engineering upon the Lake Hattie system, now owned by the Laramie Water Company. (645).

April 16, 1908, he commenced the first survey. To use his own words:

"Began the work April 16, 1908; surveyed first Lake Hattie Reservoir, then the intake canal from the Laramie River" (referring to Big Laramie) "also preliminary surveys for outlet canals and distribution system. These surveys continued with slight interruptions for a little over a year. The final location of the canals was started about May 1, 1909." (646.)

Further, concerning this initial work on the Lake Hattie system, he said:

"At the time I began these surveys, on April 16, 1908, I was working for the Arnold Engineering Company. Mr. Rosecrans instructed me to start. He was chief engineer for the Arnold Company. I was in Laramie when I received the order, where I have been since March, 1908.

This project was surveyed by the same field party that surveyed James Lake. We shifted back and forth from one project to another. This preliminary work was under my immediate supervision. I know a man by the name of G. S. Speer. He was from Chicago. He had something to do with the financial part of the project.

The Arnold Engineering Company was doing this work up to about the first of June, 1908, for Trowbridge and Niver of Chicago." (651.)

Of procedure, he said :

*"The first survey was made at the reservoir site to see if it was feasible. * * * My work was largely preliminary work on the Lake Hattie Reservoir; work that is usual on any project of any size. My time was taken up with that instead of final contouring and similar work." (653.)*

"After I had worked on the reservoir I went over to work on the inlet canal, being the canal from the Big Laramie River to the reservoir. I moved my party over to go to work on the inlet ditch a week afterwards. I was 4 days in locating the lower or final line as the feasible one.

*The country between Lake Hattie and the river is very easily surveyed. Most of it is across a table land that is quite uniform. * * * The ditch follows the line which would be run by a level. * * * I had an unlimited field in which to work, without any obstacles." (654.)*

"The final location and line was made in May, 1909. At that time I staked out all these final lines." (658.)

As indicative of the fact that this whole survey was a matter of first impression, Mr. Sevison says :

"No old maps were given me that I followed and no old surveys." (661.)

The Lake Hattie and the Lake James projects are quite similar. As Mr. Sevison stated, the country between the river

and Lake Hattie is mere level prairie, very easily surveyed, and the ditch was surveyed along the line naturally run by a level, requiring no tunneling or heavy cutting and giving an unlimited field in which to work without any natural obstacles. The lower end of the inlet was constructed by merely running water through a small ditch which naturally eroded into the ground. All of other inlet ditch excavation was done with a "drag-line" at the low price of thirteen cents per cubic yard. (654-5). In this drag-line work, the dirt was deposited on both the upper and lower sides of the ditch which was made by simply cutting across the flat prairie. (457).

The dam at Lake Hattie was made from earth borrowed in the vicinity of the structure. It is a short dam of only 36 feet maximum height and required the placing of only 180,000 cubic yards of earth. (658).

Of work on the outlet ditch, he says:

"All work on the main outlet canal, and on the north and south canals, was the ordinary small ditch building,—entirely plain earthwork, no tunnels or rock work or flumes or anything of that sort." (660.)

Mr. Sevison concludes his description of the character of construction as follows:

"The whole Lake Hattie system was one of remarkably small cost and economical construction." (660.)

As Mr. Sevison proceeded with his work of initial surveys upon this Lake Hattie project, he recorded his findings, thus of first impression, by filing with the State Engineer of Wyoming applications for permit for each unit as he proceeded. These were in the name of G. S. Speer of Chicago (Trowbridge and Niver) as claimant, but under the certificate of Mr. Sevison.

The first and initial application was filed April 21, 1908, and is entitled "Map of Lake Hattie Reservoir and Supply Canal." (Defendants' Exhibit 159.)

The second was filed May 11, 1908, for an appropriation by the Lake Hattie Reservoir through the supply canal described in the filing of April 21, 1908. (Defendants' Exhibit 162.)

On September 11, 1908, application was made for the outlet canal system from Lake Hattie. (Defendants' Exhibit 161.)

And again, on September 18, 1908, the progress and enlargement of the surveys of Lake Hattie as first conceived in April of that year was evidenced by filing application for permit for a much larger reservoir, entitled "Enlargement of Lake Hattie Reservoir," wherein all rights claimed by the earlier April and May filings for smaller Lake Hattie Reservoir were included

by reference. (Defendants' Exhibits 163-164; see also Exhibit 165.)

With each of these applications is appended a map and plat prepared and certified to by Mr. Z. E. Sevison, wherein he certifies that the first map (Lake Hattie Reservoir, Exhibit 159) was made from notes taken during the actual survey, *beginning April 16, 1908*, and the last by surveys made on September 10-12, 1908.

For convenience of the court, these and all other exhibits concerning the Lake Hattie System have been photographed and bound in a volume as a part of the record, and the general expansion of the ideas of Engineer Sevison as he worked through the summer of 1908, following his initial surveys in April, is best observed by inspection of the maps attached to these exhibits.

Mr. Sevison finally filed his map of the Lake Hattie Reservoir on final survey made June 1, 1909, in behalf of "The Lake Hattie Reservoir & Irrigation Company" by him as engineer for The Arnold Company of Chicago. This map speaks for itself. (Defendants' Exhibit 165, part 1.)

Mr. Sevison states that he also made a preliminary survey of the Boswell or Robertson-McConnell Reservoir in June, 1908 (evidently intending to state October 26, 1909, see certificate, part 1, Exhibit 177), for the purpose of checking the possibility of the construction of a dam at the upper end of the canon which the Big Laramie enters immediately after leaving the interstate line, and to ascertain the possibility of utilizing the waters thus conserved through the Lake Hattie System.

(647.) He, however, says of this survey:

"The work of construction has never commenced on it, other than mere survey." (663.)

Nothing was done toward claiming any rights for the Boswell or Robertson-McConnell Reservoir at that time and it was treated with indifference until minds of still greater promotive imagination came to have control of the project. In fact, there is no evidence that anything but a mere investigation of the dam site was made by Mr. Sevison under direction of the original promoters. Subsequent parties, however, did apparently enter upon a survey and we find them filing application for a permit during 1911. (Defendants' Exhibit 177.) This application, however, was made by one H. M. Hedges and in the certificate attached to part 1 of Exhibit 177, he certifies:

"On January 10, 1911, I made surveys verifying this map and the statements thereon and they are correct of my own knowledge; that I am the locating engineer em-

ployed by the Laramie Water Company, the applicant herein."

This permit was granted on January 24, 1911, but nothing further came of the whole scheme save that it stands as a permitted claim upon the stream, decreeing on behalf of Wyoming that an ample water supply exists to fill it after supplying all prior appropriations, and that no prior appropriators on the Laramie River would be injured by its construction. We shall treat further of this reservoir.

The entry into the field of the engineering party sent out by the Chicago promoters evidenced the possibility of profits to those undertaking construction of projects such as Lake Hattie and Lake James. This set in motion and aroused the cupidity of other promoters desiring equal opportunity for handsome profits at small initial expense, and we witness the entry of E. J. Bell, Francis C. Grable and F. S. Wendelkin of the Rocky Mountain region in the several capacities and under the names we shall hereafter mention.

These promoters on June 29, 1908, filed their first and initial application for permit for the Stewart Canal to divert water from the Little Laramie River, wherein their engineer, C. C. Carlisle, certifies that he *commenced his survey on June 22, 1908.* (See map, Defendants' Exhibit 170.)

In rapid succession thereafter these new promoters, operating in the name of E. J. Bell and The Interstate Reservoirs and Construction Company, recorded the several epochs of the expansion of their ideas by filing applications as follows: July 6, 1908, Bell Supply Ditch No. 2, for the diversion of water over the divide from Douglass Creek of the North Platte drainage into the head-waters of the Little Laramie of Laramie River drainage, upon surveys initiated June 26, 1908 (Defendants Exhibit 173); July 19, 1908, for the Bell Reservoir (never constructed) for storage of water from the Little Laramie River through Bell Supply Ditch No. 1, and predicated upon surveys certified to begin June 2, 1908. (See Defendants' Exhibit 168, and map with engineer's certificate.)

These parties also included the Bath Reservoir, for which survey, according to the application for permit filed September 15, 1909 (Defendants' Exhibit 171), was commenced by the Interstate people *August 30, 1909.* Permit to construct was granted by the State Engineer August 11, 1910, for construction of a reservoir with an authorized capacity of 37,604 acre feet to be filled from the Little Laramie River. No construction work has ever been done.

Interlocked with the promotion upon the Little Laramie, The Interstate Reservoirs and Construction Company (Bishop, 797) projected a scheme for irrigation of lands from the Big

Laramie River. In 1910 this company filed application for permit for the Interstate Canal No. 2 (Defendants' Exhibit 176) to divert water from the Big Laramie River for the irrigation of 22,544 acres. This application purported to be based upon surveys made by one W. B. Schilling *commencing July 14, 1910*, and the map accompanying the same shows an intent to reclaim lands on the south side of the Laramie River in the vicinity of Hutton and Creighton Lakes.

No action was taken upon this permit by the state engineer until the 28th day of January, 1911, and in granting the same he classes the same as an appropriation secondary to the Robertson-McConnell Reservoir, which, in the interim, had come into title of The Laramie Water Company.

The same Interstate Reservoirs and Construction Company on December 12, 1910, filed its application for permit for the Sand Creek Diversion Canal for the purpose of diverting water from Sand Creek and conveying and discharging the same into the Interstate Canal No. 2 as an additional source of supply. This permit was likewise held without action by the state engineer until January 28, 1911, when the same was granted as supplemental to the permit No. 10364 for the Interstate Canal No. 2.

It will thus be observed that the entire recent Laramie Plains development had its initiation with the coming of the survey party from the office of The Arnold Engineering Company in Chicago at the instigation of the irrigation bond brokerage house of Trowbridge and Niver of that city in March, 1908, and that the *first survey to be made commenced March 22, 1908*, upon the Lake James Reservoir; that the *next survey initiated by The Arnold Company was on April 16, 1908*, upon the Lake Hattie Reservoir. This in turn was followed by initiation of the Little Laramie development by the E. J. Bell claims and applications for permit predicated entirely upon surveys the earliest of which began on *June 22, 1908* (Stewart Canal), and lastly parties interlocked with the Little Laramie development still expanding their ideas, filed applications for development of land on the south border of the Laramie Plains and south of the Big Laramie River, predicated upon surveys alleged to have been first commenced *July 14, 1910*.

In the interim between the March and April, 1908 work upon the Lake James and Lake Hattie systems by Engineer Severson for the Chicago promoters, and the filing of the claims by The Interstate Reservoirs Construction Company last above mentioned, the Lake James and Lake Hattie projects passed from the Trowbridge and Niver concern. The Lake Hattie system passed into the control of The Lake Hattie Reservoirs and Irrigation Company, headed by Mr. George Rebertson of

Shamokin, Pennsylvania, and Senator McConnell of Shamokin, who was also interested in the Company. (665, 799.)

It should here be noted that Messrs. Robertson and McConnell of Shamokin, Pennsylvania, had no interest in this project until long after the initial surveys in March and April, 1908, and that they are apparently the gentlemen after whom the Robertson-McConnell Reservoir is named, giving evidence of the fact that that structure was really initiated for the first time after the arrival of these gentlemen as members of the holding concern.

By the beginning of 1910 the James Lake project had divorced itself from the original Chicago promoters, termed by Engineer Bishop for Wyoming "the ring connected with Trowbridge and Niver of Chicago." (799.) The lands had been formed into the Laramie Valley Irrigation District or "Talmadge-Buntin" project and the construction work had been largely completed under an entirely different management from that which assumed control of the Lake Hattie and other projects. (631-4.)

The Lake Hattie system had also passed from the "ring connected with Trowbridge and Niver" headed by G. S. Spear, into the control of The Lake Hattie Reservoir and Irrigation Company.

E. J. Bell, Francis C. Grable and F. S. Wendelkin and their company, The Interstate Reservoirs Construction Company, were still in control of the Little Laramie schemes, including the inter-watershed diversion from Douglas Creek of the North Platte drainage and also of the Interstate Canal No. 2 scheme for the diversion of water from the Big Laramie River, all of which were as yet mere surveys and imaginary projects upon which no construction had been done.

Some work had been done upon the Lake Hattie Reservoir project, but, taken as a whole, all but the James Lake project were still in embryonic condition.

The old Pioneer Canal, as we have previously observed, had been in operation for a great many years and had brought under reclamation, and in a considerable measure water-logged and ruined, a large portion of the irrigable lands beneath its line by prodigal use of water plentifully obtained without stint or supervision from the Laramie River and copiously supplied, even to the extent of imaginary consumption by animals and men of enough water to annually cover 15,000 acres with water one foot deep, at times when no need of diversion existed. This canal was located at the upper portion of the Laramie Plains where the Laramie River emerges from the mountains and at the point of least resistance for canal construction. It followed at the foot of the mountains that here arise almost abruptly from the Laramie Plains and formed a natural site

for canal line for diversion of water of the Big Laramie for irrigation of that portion of the Plains lying between the Big and Little Laramie Rivers. (940.)

When the Arnold Company sent their engineering party out from Chicago to reconnoiter and locate promotion schemes for the Trowbridge and Niver concern in the early part of 1908, Mr. Sevison, their local directing engineer, then entirely new to the territory and working entirely on first impressions, in seeking the best location for the canal to fill the Lake Hattie with waters from the Big Laramie, ran three preliminary lines and found that the old Pioneer Canal occupied the most strategic position for use, by enlargement, with the new project. (652.)

At that time the Chicago promotion "ring" had absolutely nothing whatever to do with the Pioneer Canal, but Mr. Sevison found that it would be more economical to enlarge the Pioneer Canal for only a short distance in the upper part of its course as the upper part of the new inlet for the new Lake Hattie scheme "provided satisfactory arrangements could be made for the use of the Pioneer to Sodergreen Lake." (652.) The old Pioneer Canal then had the capacity of about 300 cubic feet per second (656) and it was necessary to enlarge the upper portion in order that the use of the canal for service of its own lands should in no way be interfered with.

In May, 1909, the then promoters of the Lake Hattie project concluded an arrangement with the Pioneer Canal Company for the purpose of purchasing its remaining stock and interests in order that it might have control of the old Pioneer Canal for purpose of enlargement. (922.) That portion of the old Pioneer Canal south and west of Sodergreen Reservoir was relocated for about a mile in length and the enlargement began on July 17, 1909. (656, 646.) The old Pioneer Canal was here straightened and given a better alignment and was made larger by widening and excavating to the upper side, the old and lower embankment being left in place. By using the materials so borrowed from the upper side of the canal for raising of the lower embankment, and by the widening of the canal, the capacity was increased so that the new structure, so first conceived by Mr. Sevison in his 1908 surveys, was finally completed to a capacity of about 1,200 cubic feet per second. The canal was in no way disturbed beyond Sodergreen Lake (See Defendants' Exhibit 1) from which point the new canal branched off and ran northwesterly to the Lake Hattie Reservoir and at Sodergreen Lake bifurcation or division works were installed so that water pertinent to the new 1908-9 scheme could be segregated from the commingled waters belonging to the old Pioneer Canal appropriation and the latter carried in its old channel for distribution to its old water consumers. (656-7.)

During 1910 a general combination was conceived of all the embryonic enterprises upon the Laramie Plains, with the exception of the theretofore divorced James Lake project. Up to that time the work of The Interstate Company had been largely engineering. This general merger took form under the supervision of one Goldsborough, an engineer who had recently arrived from the East, and who operated under the name of The Goldsborough Engineering Company. Engineer Lyman E. Bishop was placed in charge as resident engineer on July 1, 1910.

On July 1, 1910, construction work had been done on the enlargement of the upper end of the old Pioneer Ditch, but none on the diversion works in the Big Laramie; the new canal from the point of departure from the old canal at Sodergreen Lake had been partly completed and some work had been done on the dam and outlet canal of Lake Hattie Reservoir. (776.)

The Interstate Reservoirs and Construction Company still controlled the original filings and permits for the entire Little Laramie system, under direction of E. J. Bell, one of its moving factors, and had charge of the proposed Interstate Canal No. 2, in which scheme Francis C. Grable and F. C. Wendelkin were prominent. (Bishop, 797-9.) Nothing but mere pretense of so-called "assessment work" had been in any way performed by the Interstate group of promoters upon any portion of their several schemes. Desultory efforts had been given to promotion and engineering (799) and the Lake Hattie project had not assumed its permanent form and its plans were still in a large measure incomplete, no diversion having been planned, much less surveyed, from the Little Laramie River, and no surveys had been made save merely for the reservoir and a part of its outlet canals, and the new inlet from the Big Laramie, only a part of which had been constructed.

From July 1 to December 1, 1910, small and insignificant, miscellaneous surveys were carried on by The Lake Hattie Reservoirs and Irrigation Company, successors to the Trowbridge and Niver concern, under the direction of Mr. Bishop (777), and included a new canal from the Little Laramie River, which we will next consider.

December 1, 1910, the Lake Hattie system, theretofore contemplating merely the use of the Lake Hattie Reservoir for storage and distribution of waters to be diverted by a new inlet canal directly from the Big Laramie River, was merged with The Interstate Reservoirs and Construction Company and the E. J. Bell promotion schemes, the merger taking form under the name of The Laramie Water Company, which has ever since continued as the owner thereof. (778.)

Beginning with December 1, 1910, the Goldsborough Company assumed active control of engineering of all the many units of the general combined scheme and in addition laid out new units not previously contemplated by any of the various promoters. An application for permit was filed *December 5, 1910* (Defendants' Exhibit 166), for an *inlet canal for Lake Hattie Reservoir from the Little Laramie River*, known as Lake Hattie Supply Canal No. 2.

Lyman E. Bishop, engineer for the Goldsborough Company, states that he located this Lake Hattie Supply Canal No. 2 in August, 1911 (774). Upon the map accompanying the application for permit for said canal, the certificate of the surveyor states that the surveys were commenced July, 1910, which would be the earliest date for which claim of initial survey could possibly be made for this Little Laramie diversion for the Lake Hattie system.

The Laramie Water Company also acquired whatever stock its predecessors had held in the old Pioneer Canal Company, so that this new company secured control of practically all the principal irrigation between the Big and Little Laramie rivers, combining all schemes of every promoter, entering the region since 1908, into one general scheme. It then proceeded under direction of the Goldsborough Company to continue with some of its new construction upon some portions of the project, noticeably completion of the new inlet and outlet canals and dam of the Lake Hattie Reservoir; construction of Lake Hattie Supply Canal No. 2 so first surveyed in July, 1910, and some work upon Stewart Canal and Bell Supply Canal No. 2. All of the remainder of the many units included in the general merger were permitted to lie dormant in the form of mere surveyed lines.

In addition, however, the company proceeded to survey Bell Reservoir No. 3, contemplated for construction across the channel of the Little Laramie River, making application for permit December 5, 1910, and accompanying the same with plats (Defendants' Exhibit 172), wherein the engineer certifies that the surveys were commenced *September 4, 1910*. Permit was granted by the State Engineer of Wyoming, January 25, 1911, for the construction of the reservoir with capacity of 5,121,988,144 cubic feet to be filled from the Little Laramie River. No actual work was ever done upon this project, and, while incomplete, it nevertheless remains an adjudicated right to divert as of priority of 1910 from the Little Laramie River to the extent of its capacity and a proclamation that there still existed sufficient unappropriated water to fill the same.

On May 12, 1912, long after the filing of this suit, and while the adjudication for priorities for water rights was going on before the District Court of Larimer County, Colorado, at Fort

Collins, and the testimony in the case was being prepared, The Laramie Water Company began the survey of a new lateral from their new Lake Hattie Supply Canal No. 1, leaving that canal just above the point of discharge into Lake Hattie and continuing on around the Reservoir basin on a grade line. This new lateral they designated as the "Pioneer Highline," and, in the language of Lyman E. Bishop, the engineer who made the initial survey, "was made for the purpose of serving land immediately north of Lake Hattie Reservoir and all the land in Big Hollow and land on the south limb of Big Hollow, which is above the north canal." (796.) The line of this canal intercepts and crosses the Lake Hattie Supply Canal No. 2. (785-795.)

Application for permit was filed July 11, 1912, and was accompanied by a map. (Exhibit 160.) By the terms of this application it was guaranteed and assured that this new line of canal, if ever constructed at all, would be no additional draft upon the river, but would simply aid in the distribution of water theretofore appropriated by various permits granted the several predecessors of The Laramie Water Company, none of which had ever displayed any reference by maps, words or figures to any such a scheme as this so-called "Pioneer Highline." In the application they specifically limit themselves in the following language:

"It is understood that nothing contained in this permit shall be construed as meaning the additional appropriation of any amount of water in excess of the total amount of water covered by permits heretofore issued as a part of the Laramie Water Company's system."

We shall give thorough consideration to this mythical canal in answering portions of the brief and argument for the plaintiff State of Wyoming, and, at present, let it suffice to say that no construction and no activity, other than mere survey and filing of the permit, have ever taken place upon the canal. The evident purpose of its survey and filing as an after-thought becomes more apparent on thorough consideration.

At the taking of testimony, 1913, the Lake Hattie Reservoir and its inlet from the Little Laramie River, Lake Hattie Canal No. 2, had been completed, while the enlargement of the extreme upper portion of the old Pioneer Canal, and Lake Hattie Supply Canal No. 1, carrying water from the enlargement of the old Pioneer to the reservoir, had not been fully completed, but had been used for the diversion and carriage of water since July, 1911. The main outlet canal, with its two branches, for the reservoir, had been completed (779), the intermountain diversion from the North Platte to the Little Laramie, known as Bell Supply No. 2, was but 15% complete, and the excavation on the Stewart Canal was only about two-thirds

complete. Other than this, all the rest of the units so merged into the general scheme of The Laramie Water Company had remained dormant and with no construction upon any of them.

The many separate permitted appropriations of water from the Big and Little Laramie rivers, combined and merged under The Laramie Water Company, *all dating of and subsequent to April 21, 1908*, were enumerated by R. I. Meeker, an employee of The Laramie Water Company. Upon request, he produced all these permits for inspection, but plaintiff did not see fit to offer any of them in evidence (for plaintiff to have done so would have been an admission of the fallacy of any contention of seniority over the Colorado project), and it became necessary for the defendants to procure certified copies of the same. (Defendants' Exhibits 159 to 178 inclusive.)

It is admitted by plaintiffs that the permits enumerated by Mr. Meeker (1070-1, 3919-39), include *all of the permits and authority under which The Laramie Water Company asserts any claim of appropriation for water for the Lake Hattie Reservoir system from either the Big or Little Laramie rivers in Wyoming*. In other words, these permits represent all and the only authority of that company to construct irrigation works diverting water from these streams in Wyoming and of necessity the priority of each of these units is represented by the permit under which the same is authorized. *An inspection of the permits reveals the fact that Mr. Severson's survey, commencing April 16, 1908, is the earliest initial act under which any of these canal or reservoir schemes were commenced, or even contemplated, by their several promoters, and the evidence adduced by Wyoming witnesses proves conclusively that actual construction has taken place under but few of these many permits and that the claims predicated thereupon relate exclusively to the initial surveys rather than actual construction.*

Arranged in order of priority, as represented by date of filing, these numerous permits of The Laramie Water Company's system (1070-1, 3919-29, Defendants' Exhibits 159 to 178), being the only and all the authority of that company to construct any part of their system, are as follows:

Date of Filing	Permit Number	Name of Ditch or Reservoir	Stream	Defts.' Ex. No.
April 21, 08	8612	Lake Hattie Supply Canal.....	Big Laramie River.....	159
May 11, 08	1372 Res.	Lake Hattie Reservoir.....	.....	162
June 29, 08	8521	Stewart Ditch.....	Little Laramie River.....	170
July 6, 08	8519	Bell Supply Ditch #2 (Inter-watershed).....	Douglas Creek over into Little Laramie	173
July 19, 08	1331 Res.	Bell Reservoir.....	Little Laramie and Douglas Creek.....	169
July 19, 08	8518	Bell Supply Ditch #1.....	Little Laramie.....	168
Sept. 11, 08	8613	Hattie Canal No. 1.....	Big Laramie.....	161
Sept. 18, 08	1939 Enl.	Enl. Lake Hattie Canal #1.....	.....	164
Sept. 18, 08	1373 Res.	Enl. Lake Hattie Res.....	Big Laramie River.....	163
July 3, 09	2113 Enl.	Enl. Pioneer Canal.....	Big Laramie River.....	165
Aug. 30, 09	10364	Interstate Canal #2.....	Big Laramie River.....	176
Sept. 15, 09	1883 Res.	Bath Reservoir.....	Little Laramie River.....	171
Oct. 15, 09	2051 Res.	Robertson-McConnell Res.	Big Laramie River (across channel at interstate line).....	177
Dec. 5, 10	10363	Lake Hattie Supply Canal #2.....	Little Laramie River.....	166
Dec. 5, 10	2052 Res.	Bell Res. No. 3.....	Little Laramie River.....	172
Dec. 12, 10	10365	Sand Creek Diversion Canal.....	.....	178
March 7, 12	11016-22	Bell Supply Ditch No. 2 (Inter-watershed diversion) ...	Douglas Creek to Little Laramie and Lake Hattie.....	175
March 7, 12	2538 Enl.	"	"	174
July 11, 12	2719 Enl.	Pioneer Highline Canal Enl. Lake Hattie Supply Canal.....	Big and Little Laramie Rivers with condition for return of equivalent amount of water back to stream.....	160

Separated into groups, according to the stream from which the diversion is made, we have:

Date of Filing	Permit Number		Name of Ditch or Reservoir	Defts.' Ex. No.
<i>Big Laramie River</i>				
April 21, 08	8612		Lake Hattie Supply Canal....	159
May 11, 08	1372	Res.	Lake Hattie Reservoir	162
Sept. 11, 08	8613		Hattie Canal No. 1.....	161
Sept. 18, 08	1939	Enl.	Hattie Canal (Outlet to Lake Hattie Reservoir)	164
Sept. 18, 08	1373	Res.	Enlargement Lake Hattie Reservoir	163
July 3, 09	2113	Enl.	Enl. Pioneer Canal from Big Laramie River to Sodergreen Lake (and no further).....	165
Aug. 30, 09	10364		Interstate Canal No. 2.....	176
Oct. 15, 09	2051	Res.	Robertson-McConnell Reservoir (their first and only claim or permit).....	177
Dec. 12, 10	10365		Sand Creek Diversion Canal (part of Interstate Canal, 10364)	178
July 11, 12	2719	Enl.	Lateral ditch for Lake Hattie Supply Canal (designated as Pioneer Highline and making no claim for water from any stream)	160
<i>Little Laramie River.</i>				
June 29, 08	8521		Stewart Ditch	170
July 19, 08	1331	Res.	Bell Reservoir	169
July 19, 08	8518		Bell Supply Ditch for filling Bell Reservoir	168
Sept. 15, 09	1883	Res.	Bath Reservoir	171
Dec. 5, 10	10363		Lake Hattie Supply Canal No. 2 (first and initial claim for this canal then first conceived) ..	166
Dec. 5, 10	2052	Res.	Bell Reservoir No. 3.....	172
July 11, 12	2720	Enl.	Lake Hattie Supply Canal No. 2 (first enlargement)	167
<i>Inter-watershed Diversions from Douglas Creek to Little Laramie River.</i>				
July 6, 08	8519		Bell Supply Ditch No. 2.....	173
March 7, 12	11016-22		Bell Supply Ditch No. 2.....	175
March 7, 12	2538	Enl.	Bell Supply Ditch No. 2.....	174

The diversions classified under the last title are increment to the Little Laramie, but are included to show their general relation to the system, the dates of their first initiation, and the subsequent expansion of the ideas of the promoters.

Grouping the above mentioned appropriations of the Laramie Water Company's system according to the stream from which the diversion is made, the extent of the permitted diversions, and the degree to which each unit was wholly or partially completed at the date of the trial, is more graphically set forth as follows:

Running Number	or Reservoir	Diversion	Completed	Ex. No.
Apr. 21, 08 8612	<i>Big Laramie</i> Lake Hattie Supply Canal..	(See 8613 and 1939 Enl.)	Complete	159
May 11, 08 1372 Res.	Lake Hattie Reservoir	(See 1373 Res.)	Complete this and 2113 Enl.	162
Sept. 11, 08 8613	Outlet Canal Lake Hattie Reservoir	54,256.10 acres	Complete	161
Sept. 18, 08 1939 Enl.	" "	6,597.17 acres	(None)	164
Sept. 18, 08 1373 Res.	Enl. Lake Hattie Res.....	93,800.00 ac. ft.	Complete	163
July 3, 09 2113 Enl.	Enl. Pioneer Canal (upper portion to Sodergreen Lake only)	(No claim other than included in 8612, 8613 and 1939 Enl.)	(See 8612)	165
Aug. 30, 09 10364	Interstate Canal #2	22,544 acres (inc. in 10365)	None	176
Oct. 15, 08 2051 Res.	Robertson-McConnell Res....	335,831 ac. ft.		171
Dec. 12, 10 10365	Sand Creek Diversion (Feeder to Interstate Canal)	(14,628,826,680 cu. ft.)	None	178
July 11, 12 2719 Enl.	Pioneer Highline Canal.....	Included in 10364	None	178

Merely a distribution lateral from inlet to Lake Hattie to 15,-

786.69 acres additional. None

(NOTE.—No part of acreage under old Pioneer Canal is or should be claimed as included with lands to be served by above diversions. The appropriations of this old canal bear no possible relation to those of the new system.)

Little Laramie.

June 29, 08 8521	Stewart Ditch	95,569.74 acres	\$46,000 yet to complete	170
July 19, 08 1331 Res.	Bell Reservoir	{ (25,000 acres included in Stewart application 8521) }		
July 19, 08 8618	Bell Supply Ditch		None	169
Sept. 15, 09 1883 Res.	Bath Reservoir	37,604 ac. ft.	None	168
Dec. 5, 10 10363	Lake Hattie Supply Canal No. 2	(Included in 8612, 1372 and 1373 Res. Big Laramie)		
		117,584 ac. ft.	Complete	166
Dec. 5, 10 2052 Res.	Bell Res. No. 3	(5,121,988,144 cu. ft.)	None	172
July 11, 12 2720 Enl.	Enl. Lake Hattie Supply Canal No. 2	No additional acreage than already included in 8521 and 8613		
			None	167

All water diverted out of the watershed of the North Platte by the Bell Supply Canal No. 2 (only 15% complete) will augment the supply in the Little Laramie and relieve the demand from that stream to the extent of the increment. Here, Wyoming is doing what she would have the court deny Colorado the right to do, *i. e.*, to augment the supply of one tributary with water obtained from another tributary of the same general drainage.

RECAPITULATION.

Big Laramie.

Within the appropriation (1373 Res.) of 93,800 acre feet of

Lake Hattie are included:

- (1) (8613) Outlet Canal Lake Hattie, water for.....
- (2) (1939 enl.) Enl. Outlet Canal Lake Hattie, water for....
- (3) (2719 Enl.) Enl. of use of water by lateral from inlet ditch
to Lake Hattie called "Pioneer Highline," water for
Interstate Canal No. 2 (10364) has permit for water for.....

Total diversion Big Laramie for which permits granted since

April 21, 1908

The Robertson-McConnell appropriation of 335,831 acre feet will be used largely as supplementary to above canals and Lake Hattie Reservoir. It may be used in any other locality and is evidently intended also as an independent supply, and, accordingly, to above should be added.....

Canals

54,256.01 acres

6,597.17 acres

15,786.69 acres

22,544.00 acres

99,183.87 acres

Reservoirs

335,851 acre feet

<i>Little Laramie.</i>	Canals	Reservoirs
Stewart Canal (8521), water for.....	95,569.74 acres	37,604 acre feet
Bath Reservoir (1883 Res.), water for.....		
Bell Res. No. 3 (long junior to James Lake Reservoir) is awarded permit for		117,584 acre feet
Total decreed to canals (as of priority June 29, 1908). water for	95,569.74 acres	
Total decreed to reservoirs as of priorities Sept. 15, 1909, and Dec. 5, 1910		155,188.00 acre feet
<i>Both Laramies.</i>	Canals	
Big Laramie, water for	99,183.87 acres	
Little Laramie, water for	95,569.74 acres	
Total	194,753.61 acres	
<i>Also</i>	<i>Reservoirs (Other</i>	
Water for reservoirs which may be used on acreage additional to that served by above canals:	than Lake Hattie and Bell Res. #1)	
Big Laramie	335,831 acre feet	
Little Laramie	115,188 acre feet	
Total	451,019 acre feet	
(NOTE.—The call upon the Laramies will be reduced to the comparatively small amount of water received over the divide from Douglas Creek.)		
(Engineer Bishop gives a total of 112,220 acres to be served by the Laramie Water Company's system as at present in process of construction. (781.1)		

Only those portions of the Laramie Water Company's system are completed whose construction has been along lines of least resistance and where no natural obstacles have interfered, viz.: Lake Hattie, its inlet from the Little Laramie, a portion of its inlet from Big Laramie, its main outlet ditches, and a part of the Stewart Canal. (779.) All these are on the open prairie along lines naturally run by a level. On the main body of the system no work whatever has been performed, the Robertson-McConnell, Bath and Bell Nos. 1 and 3 Reservoirs, the construction of which would require the overcoming of natural obstacles and the expenditure of great sums of money in payment for labor (though still less expensive than that required upon the Greeley-Poudre system), remain as incomplete as on the day when the engineers folded their instruments and departed. Only that part of the work has been undertaken where expenditure of a relatively small amount of money (compared with the whole cost of the enterprise) will produce the greatest display. In Colorado the most difficult portion of the system, the tunnel, has been completed. In Wyoming the reverse is true, and the greater portion of the work still remains untouched.

(p) N. W. Land and Iron Company.

On June 3, 1909, The Northwestern Land and Iron Company, affiliated along with The Denver Laramie Realty Company as a subsidiary of The Denver-Laramie Railway Company, acquired the old Riverside ranch lying immediately below the Sodergreen ranch at the upper end of the Laramie Plains (south of Lake Hattie) and also the Hoge ranch, south of the Laramie River and immediately above the mouth of and along Sand Creek. The King Water Ditch had theretofore been used for the irrigation of river bottom lands of the Riverside ranch and the new company projected building this ditch on a higher line and extending it to the Hutton and Creighton Lakes on the Hoge ranch, which had theretofore been (and still are) used as immense evaporation waste basins, but which could be converted into storage reservoirs and used for the irrigation of unclaimed lands on the latter ranch.

June 3, 1909, applications for permits Nos. 10149-50, 2304 Enl. and 1963 Res. were filed with the office of the State Engineer of Wyoming, wherein they sought the privilege of enlarging the King Water Ditch and re-building the same as the King Highline Ditch (2304 Enl.), for the purpose of filling Hutton Lake Reservoir (1962 Res.) and distributing the water by two outlet canals (10149-50). These applications were granted and permits issued October 17, 1910. (See

tabulated list from office of State Engineer, page 3961 of record.)

At the taking of testimony it was stated (285) that this highline ditch had been completed during 1912, with the exception of a flume across Sand Creek, and also that a portion of the work had been done upon the reservoir, but the scheme was generally incomplete. In enlarging the King Ditch, its former capacity was increased about 100%. (322.)

The record does not give the acreage to be reclaimed by this ditch and reservoir system, but it is safe to estimate that reclamation of at least 10,000 acres was contemplated in this new project thus first initiated June 3, 1909. This area lay to the south and west of that included within The Laramie Water Company's schemes.

(c) *Appropriations East of Laramie Mountains.*

The many small ditches irrigating native hay meadows along the narrow valleys of the numerous mountain streams joining to form tributaries which enter the Laramie River as it flows through the Laramie Mountains and traverses the region between the mountains and Fort Laramie, Wyoming, may be treated as of no real consequence in determining the relative rights of the larger projects here involved. The North Laramie, Chugwater and Sybille are the principal of these tributaries, although the waters of the Sybille are in large measure available for irrigation of the Wheatland tract, as we shall hereafter observe.

The appropriations along the valley of the Laramie from the mountains to Fort Laramie and in the vicinity of Uva, Wyoming, are of the same general character as those along the North Laramie, the Sybille and Chugwater (102-3), and are so abundantly supplied, both by the principal stream and the increment thereof gathered through the canyon, as well as by constant flow and discharge of seepage and return waters from the North Laramie (64), Sybille and Chugwater (173, 206), that time would be needlessly consumed by a discussion of their relative rights.

The principal irrigation within this general area, either from systems of several years standing or contemplated through new enterprises (many years subsequent to the Greeley-Poudre project) is limited to the enterprises of The Wyoming Development Company and its subsidiary, The Wheatland Industrial Company, the former of which promoted, constructed and subsequently managed the original Wheatland project, while the latter has undertaken the promotion and construction of two very recent projects adjacent to the original tract near Wheatland, Wyoming.

*(c-1) Wheatland.**(x) Original Project.*

The reclamation of about 60,000 acres situated to the south and above the Laramie River after it leaves the Laramie Mountains, and bounded on the east by the Chugwater and the west by the Sybille, was originally undertaken by The Wyoming Development Company during the '80's.

This original Wheatland area, of nature, depends for its reclamation entirely upon water supplied by the Chugwater or the Sybille, principally the latter, and the promoting company constructed two canals for the irrigation of the Wheatland area by waters to be diverted from the latter stream. Wheatland Canal No. 1 was constructed along the southern edge of the Wheatland flats or table land (and along the northern toe of the hills bounding the area on the south), and terminated about one and one-half miles from the present Town of Wheatland. Canal No. 2 diverted water some eleven miles further down the Sybille, flowed over the western and northern portion of the tract and through the Town of Wheatland. (158.)

While the Sybille is approximately fifty or sixty miles in length (103), and has a considerable drainage with a constant flow (39), the promoters of the enterprise realized that the water supply from this drainage was insufficient for the proper reclamation of the project.

Bluegrass Creek forms a tributary of the Sybille, entering about one-half mile above the head of Wheatland Canal No. 1. The drainage area of the Bluegrass near its source is next adjacent to and separated from the drainage of the Laramie by a very narrow mountain range, quite similar to the division of the drainage area of the Cache la Poudre and the Laramie in Colorado. At opposite points on the two streams, the elevation of the Bluegrass is considerably below that of the Laramie, and water is diverted from the Laramie and conveyed to the Bluegrass by means of a tunnel about 2,585 feet long (176) constructed through the intervening mountain. While the diversion of water from the Laramie to the Bluegrass and thence by way of the Sybille to the Wheatland area would result in diversion of water from one watershed through the divide for application upon lands situate in the watershed of another stream (exactly similar to the Colorado diversion by the Greeley-Poudre system), the Wyoming promoters, under sanction of the authorities of that state, constructed a tunnel through this narrow mountain divide and thereupon diverted the water of the Laramie which they have since hitherto used to supplement the supply from Sybille Creek for the irrigation of the original Wheatland area.

January 29, 1898, application for permit was filed with the State Engineer of Wyoming by The Wyoming Development Company for right to construct Wheatland Reservoir No. 2 in the pit or lowest portion of the Laramie Plains area and situate about 16 miles above the western portal of the Wheatland tunnel, so diverting water from the Laramie over into the drainage area of the Sybille. (29, 48.) The application having been granted, actual construction commenced in 1899, and in July, 1901, a reservoir with an impounding capacity of 126,000 feet was completed across the channel of the Laramie River. (48.) The waters impounded in this reservoir are re-discharged into the Laramie and are thence conveyed to and through the Wheatland inter-watershed tunnel and into the Sybille drainage for re-diversion to the Wheatland tract.

During the thirty years following the initiation of the project and prior to the taking of testimony in this case, about 33,544 acres out of the tract had been reclaimed. (168.) Throughout practically the entire period, diversion and storage of water has been governed solely by the desires of The Wyoming Development Company, who have acted on their own motion, helping themselves to the abundant water supply without any supervision by water commissioner or state officials, with the possible exception of the very dry year of 1911. Constant irrigation has caused the underground water-plane to gradually rise so that seepage has already appeared in portions of the area with consequent reduction of demands upon the canal for the irrigation of portions of the area (200-1), and although a considerable portion of the original tract is still unreclaimed, the water supply is sufficiently abundant (94) to have warranted opening two new and collateral enterprises which we shall next consider. (205-6.)

(y) New Projects.

The Wheatland Industrial Company is formed of members of The Wyoming Development Company. (86.) It was organized for undertaking reclamation of two Carey Act projects lying upon foreign watersheds, but immediately adjacent to the original Wheatland tract and known as the Bordeaux and Sybille tracts.

The reclamation of these tracts is to be accomplished by construction of new and independent enlargements of portions of The Wyoming Development Company's tunnel and canals and also a new and independent canal from Bluegrass Creek. (41, 61.)

(y-1) Bordeaux Tract.

The Bordeaux tract comprises about 10,000 acres of rough, rolling land (67) lying south and east of the original Wheat-

land tract, within the drainage of a tributary of Chugwater Creek and separated from the original tract by a range of hills. (41.) By construction of a short tunnel through this rocky divide, water flowing in Wheatland No. 1 Canal along the south edge of the Wheatland tract is carried through the divide and into the drainage of this tributary of the Chugwater for irrigation of the new Carey Act project. (41.) The thought of possible future reclamation of this Bordeaux tract by means of a new double inter-watershed system in part built through portions of the original Wheatland system by enlargement, first suggested itself in 1904, but no serious efforts were directed toward its construction until the year 1907.

On April 18, 1907, The Wyoming Industrial Company, theretofore organized, made application with the State Engineer of Wyoming for permit to enlarge Wheatland Canal No. 1 for the irrigation of the Bordeaux tract. This application was approved on the same day and permit No. 1681-E was issued to the Company. (3961.) During 1907-8, the inter-watershed tunnel between the Laramie and the Sybille drainages was slightly enlarged at the upper end. (186.) There was a slight enlargement of The Wheatland or Wyoming Development Company's Canal No. 1 to the foot of the rocky ridge between the Laramie and the Sybille, the new tunnel was constructed through the rocky divide (41) and a new canal known as The Wheatland Industrial Company's Canal No. 1 (211) was completed around the upper boundaries of the Bordeaux tract for its reclamation. (108.) In the five years elapsing between completion of the canal and the taking of testimony, about 1,004 acres out of the 10,000 acres of the project have been brought under irrigation. (168.)

That the reclamation of this tract was undertaken long subsequent to the initiation of the Greeley-Poudre project is evidenced by the testimony of M. R. Johnson, for many years general manager of The Wyoming Development Company, who said :

"This Bordeaux tract is a separate and new tract of the land added recently. We contemplate irrigating it through No. 1 Canal. We enlarged No. 1 Canal for that purpose. The tunnel was deepened in later years and the enlargement of No. 1 Canal was made for the purpose of obtaining additional water for the Bordeaux and Sybille tracts.

These two tracts were not in contemplation when I went in charge of the system in 1888 or when we constructed our Reservoir No. 2 in 1900." (41-2.)

(y-2) The Sybille Tract.

The Sybille or Cooney Hill tract, 30,000 acres of land much inferior to that of the original Wheatland Tract (68, 169), is surrounded on the west, south and east by spur ranges of the Laramie Mountains. Sybille Creek flows between the easterly of these ranges and the original Wheatland tract while the ridge at the south of the new tract forms the northerly portion of the divide of the Bluegrass drainage in that vicinity.

Mr. M. R. Johnson said:

"The Sybille or Cooney Hill tract will be irrigated out of the canal taken directly from the Bluegrass Creek. *This is a new and independent canal* taking water from Bluegrass before it reaches the Sybille Creek. The Sybille tract lies across the Sybille west from the original tract." (40-1.)

Neither the Sybille nor the Bordeaux tracts were in contemplation at the time of the construction of the original enterprise, nor the Wheatland Reservoir No. 2 (42.)

The idea of developing the Sybille tract occurred to the promoters some two years subsequent to their first contemplation of the Bordeaux tract. (40.) In order to irrigate the tract, it is necessary to make a double inter-watershed diversion from the Laramie River, viz., first, from the Laramie River through a new enlargement of the old Wheatland tunnel into the Bluegrass, and then again from the drainage of the Bluegrass over into the watershed of the Sybille tract by another 900 foot tunnel constructed through the divide at the lower end of a new canal leading from the Bluegrass. (211.)

Surveys for this new canal and inter-watershed diversion from Bluegrass Creek, thereafter to be known as The Wheatland Industrial Company's Canal No. 2, are alleged to have been commenced in 1907 (108), but application for permit was not filed with the State Engineer until August 7, 1908. This application was approved and permit No. 8531 was granted on the following day, August 8, 1908. (3961.) Construction began in July, 1910, almost two years subsequent to the approval of the permit (108), and the new 16 mile canal (169) of 300 second feet capacity, together with this 900 foot tunnel through the divide between Bluegrass Creek and the tract, was largely completed in 1911-12 (212), although still incomplete at the time of taking of testimony. (67.) No part of the tract has been reclaimed.

The original Wheatland tunnel was constructed exclusively for service of the original Wheatland tract. Reclamation of the

new Bordeaux and Sybille tracts required the invention of new means of serving these additional lands. This could be more feasibly accomplished by building a new tunnel within the old tunnel, by enlargement of the latter. While some slight enlargement took place in 1907, the principal enlargement for service of the Wheatland Industrial Company's new tracts did not occur until during the fall of 1910 and spring of 1911. (176, 180.) The old tunnel was greatly enlarged, as much as two feet of rock were taken out of the bottom and it was finished to an average width of 8 feet, a cross-section area of 72 feet and a capacity of about 800 second feet, which is somewhat limited by the capacity of the intake canal from the Laramie River to the upper portal of the tunnel.

Storage of water for the Bordeaux and Sybille tracts will occur in Wheatland Reservoir No. 2 (115), save as obtained from the Bluegrass and Sybille or directly from the river from increment below the large reservoir.

All of the old project is prior to August 25, 1902, at least in so far as developed up to that date. Of the new tracts projected, promoted and constructed under the new, The Wheatland Industrial Company, we have the following:

Permit Number	Project	Date of Filing	Acres
1681-E	Bordeaux Enl. Wyo. Dev. Co. Canal No. 1.....	April 19, 1907	10,000
8531	Sybille Canal and Tunnel.... (Sybille Canal not quite complete 1913. Bordeaux Canal complete. Only 1,004 acres out of combined 40,000 acres in projects irrigated prior to 1913).	August 7, 1908	30,000

(d) *Recapitulation of all Wyoming New Appropriations since 1902.*

All large projects constructed or permitted for the diversion and application of water from Laramie River to lands in Wyoming subsequent to August 25, 1902, are summarized as follows:

Date of Survey	Date of Filing	Project	Acreage	Add. Permitted for Storage (Acre Feet)	Portion Completed
Aug. —, '07	Apr. 18, '07	Wheatland Ind. Co.			
		(Bordeaux System)	10,000	.....	Complete
Nov. —, '07	Aug. 7, '08	Wheatland Ind. Co.			Almost Complete
		(Sybille Tract)	30,000	.....	Complete
Nov. 22, '08	Dec. 27, '07	Sodergreen Highline	3,400	.....	Complete
Mch. 22, '08	Mch. 27, '08	Lake James System	30,000	.....	Complete
	(et seq.)				
Apr. 16, '08	Apr. 21, '08	Laramie Water Co or Lake			Partially Completed
(et seq.)		Hattie System	194,753.61	451,019	Partially Completed
	June 3, '09	N. W. Land & Iron Co.			
		(est.)	10,000	.....	Completed

Total acreage for which permits have been granted by State Engineers of Wyoming since August 25, 1902... 278,153.61

In addition to the above acreage thus granted permits, we have the Bath, Robertson-McConnell and Bell No. 2 Reservoirs of The Laramie Water Company's system showing an additional grant from the river of 451,019 acre feet.

The foregoing are the solemn decrees of the plaintiff State of Wyoming entered through her eminent state engineers, Clarence T. Johnston and A. J. Parshall. They constitute official declarations against interest by plaintiff and are the solemn guaranty to all the world (1) that there was *ample water* in the Laramie River on the date of each respective decree (permit) to supply the appropriation granted permit, *after* having supplied *all prior claims* from the stream, (2) that *no injury* would result to other and prior appropriators by the construction and subsequent operation of each of the series of works thus directed to proceed with construction, diversion and application of water, and (3) that the granting of each of said permits *does not threaten public interest*.

Each of said permits was also the solemn decree of the State that the appropriation thereby granted should have *priority as of the date of the filing* of the application and not theretofore, by reason of the fact that no right, and consequently no priority, can attach until after such application should be granted and permit issued, in which event the statute fixes the priority.

Here we find the plaintiff state solemnly decreeing that *after all* lands then under irrigation, or for the irrigation of which permits and appropriations had theretofore been granted or vested, had been and would forever be supplied with sufficient water for their annual reclamation, there still remained in the Laramie River sufficient water to annually irrigate 278,153.61 acres additional, and, furthermore, that there existed sufficient water in the stream to warrant the construction of reservoirs for the storage of over 450,000 acre feet of water for irrigation of these or still other lands, after having already supplied the enormous reservoirs included within the acreage permits above mentioned.

These decrees were not entered on the spur of the moment or directed by single influences, interests or prejudices. On the contrary, each was deliberately entered after mature consideration and with full knowledge of all conditions. (See time elapsing between time of filing and granting.) Furthermore, we have the benefit of the deliberate, dispassionate judgment of the two eminent experts who successively acted as State Engineers of Wyoming during the years 1907-13, inclusive. The judgment of these eminent men, whose only interest was that of protecting the public and those who might otherwise be induced to invest their money in unfortunate ventures improperly approved, should be of greater weight than that of some mere

hydrographer employed by and responsible alone to one of the promoting companies and representing but one of the several enterprises and not the state or even a goodly number of the interested appropriators.

We fail to reconcile these decrees of the plaintiff state, inferentially to secure the investment of enormous sums of money in construction, with the testimony of hydrographer Meeker of The Laramie Water Company (not the State of Wyoming), who was generally unfamiliar with the territory prior to 1912 and whose radical deductions were confessedly in frequent error, the greater portion of whose testimony had to be discarded, corrected and reconsidered, and who placed his judgment, founded on mere reconnaissances and hasty investigations, against the results of months of field labor by fully equipped engineering parties.

Neither of the eminent state engineers of Wyoming was offered as a witness by Wyoming. Neither of them was called upon to verify the truth concerning the permits by him granted, or to justify the expenditure of private moneys thereby permitted under state approval, which would be but the promulgation of fraud by the state if in truth sufficient water supply did not exist in the stream to satisfy these new diversions (all junior to 1907-8) after having supplied all prior initiated or completed systems.

Wyoming did not even introduce evidence or copies of the several permits above mentioned in order that her own decrees might appear in the record. On the contrary, reliance seems to have been placed entirely upon the confessedly erroneous, shifting and reconstructed testimony of one private-employee witness and upon the introduction of evidence and decrees for old irrigation systems in no way here involved and confessedly so bountifully supplied with water as to permit unlimited waste after each appropriator had taken his full "lion's share" and there still existed sufficient in the stream to supply all others who likewise helped themselves without the service of a water commissioner or other supervising official.

It remained for the defendants to introduce copies of these permit-decrees. By their introduction we have the uncontradicted testimony of the engineers who granted them *that none of the recent large Wyoming appropriations were initiated prior to 1907-8* (this was also universally admitted upon cross-examination of all Wyoming witnesses having knowledge of the facts) and that many of them were not even conceived until about the time of or subsequent to the filing of complaint in this case, and *that Wyoming has officially admitted, declared and decreed that after all prior appropriations from the entire Laramie River and tributaries* (including, of course, the comparatively insignificant diversion by the Greeley-Poudre enter-

prise in Colorado, *there still remains sufficient unappropriated water to justify the granting of permits* authorizing the expenditure of vast sums of private money for the construction of large new and theretofore uninitiated systems for the irrigation of 278,963.61 acres more of land than had theretofore been reclaimed, and that in addition thereto enough water still remained in the stream after supplying Lake Hattie, James Lake and all other reservoirs included within the above acreage, to justify the construction of reservoirs to impound over 450,000 acre feet additional.

This testimony, given through these many permit-decrees by these eminent state officials chosen by the people to examine and pass upon all projects before permitting construction to commence and to decree thereunto the solemn guaranty of the Commonwealth, is conclusive answer to any contention that the Wyoming projects are senior to the Greeley-Poudre project, or that the latter may in any possible manner injure or interfere with any of the older projects in Wyoming constructed prior to August 25, 1902.

(4) PLAINTIFF'S ERRONEOUS ASSUMPTIONS.

(a) *Plaintiff's Exhibit "G."*

The record shows, without contradiction, and counsel for plaintiff admit, that only a portion of the lands situate beneath the old Pioneer Canal on the Laramie Plains and but little more than half of the original Wyoming Development Company's tract near Wheatland are reclaimed. The exhibits under which Wyoming claims appropriations for all her new large enterprises, and particularly the James Lake and Laramie Water Company's system on the Laramie Plains, and the Bordeaux and Sybille tracts adjacent to the original Wheatland tract, show conclusively that the Laramie Plains projects were not initiated in the one instance before March and April, 1908, and before 1907 in the other, and that but a very small percentage of the lands under these newer projects had been brought under reclamation at the time of the trial of this case.

R. I. Meeker, the "expert" for The Laramie Water Company, testified that his knowledge of the territory did not begin until May, 1912 (217). He testified at other times to the acreage irrigated under the Pioneer system and the fact that practically none was reclaimed under The Laramie Water Company's new system. He also admitted that the permits which we have heretofore considered in detail are the *sole and only permits* under which The Laramie Water Company's system has

been constructed, or upon which their priorities are predicated, the earliest of which was April 21, 1908 (1070-1).

In the face of the entire record and his own testimony, Mr. Meeker prepared a map marked Plaintiff's Exhibit "G," whereby he would portray and classify as under priorities before and subsequent to 1900 the various lands irrigated from the Laramie River. The selection of the arbitrary date 1900, which happens to be prior to August 25, 1902, would lead the mind to believe that some development took place at about that time, when in truth no new Wyoming development occurred prior to 1907-8. This map, by artful coloring, would indicate priorities as of 1900 for lands still unreclaimed and the construction of works for the irrigation of which did not commence even by survey until about six years after the Colorado project was commenced and prosecuted in good faith, and is a misrepresentation of all the evidence relating to priorities and irrigated areas.

A lengthy detailed objection was made to its introduction (1030-2). It is particularly misleading and false in that: The legend on the map shows that Mr. Meeker had colored in green all lands which he wished to leave the impression had received irrigation development prior to 1900, and in yellow those subsequent to 1900. He erroneously includes all of the land under both the Pioneer and the original Wheatland systems in solid green, thus indicating that they were all reclaimed, and also shows as irrigated certain unreclaimed lands lying between the Pioneer Canal and Lake Hattie. Under the yellow tint he notes as under irrigation since 1900 the great bodies of still unreclaimed lands under the James Lake, Lake Hattie, Sybille and Bordeaux tracts, when the permits for these systems, his own testimony, and the entire record shows that none of the works for the reclamation of these lands were commenced, much less were the lands irrigated, prior to 1907-8, and that the initial surveys on the major portion of them began in the spring of 1908, while the Pioneer Highline Canal, as we shall hereafter observe is still but a fiction, was not granted permit until January 8, 1913, and no part of the same has ever been constructed.

Undoubtedly, these new large projects, particularly that of his client, The Laramie Water Company, were initiated *subsequent* to 1900, 1800, 1700, or any other date before 1907-8. The official records show that the epochs of development on the Laramie Plains naturally occur either before or after the Spring of 1908, and not 1900. This was some six years subsequent to August 25, 1902, when the Greeley-Poudre project was commenced in Colorado, and it is uncontradicted, even by Mr. Meeker, that these Wyoming projects are junior and inferior both in time and right.

No attempt was made by the owner of any of these large

new Wyoming projects to deny that they are all between five and six years junior to the Colorado project, and no tendency to cloud the record was evidenced by the employees of any system save the repeated efforts of Mr. Meeker for The Laramie Water Company, whose constantly changing water data is on a par with the effort displayed by the map, Exhibit "G."

His notations and delineations upon that portion of the map referring to the Greeley-Poudre system in Colorado are equally fallacious. The intent of those having charge of this project in its early stages, their well defined plans at the very outset and their subsequent conduct and that of their successors in directing both engineering and construction, are covered in a long line of uncontradicted testimony. This record shows adherence to the one original plan throughout all the years succeeding August 25, 1902, all leading to the completion of the Greeley-Poudre tunnel system. On Exhibit "G," this witness ignores the uncontradicted evidence and seeks to portray, by ingenious mapping and an unwarranted interpretation, an original plan and intent entirely foreign to the truth as given by all witnesses. In fact, the exhibit is as hopelessly misleading and distorted in this regard as it is in its fictitious priority conclusions.

The entire exhibit seems to have been prepared in the hope of leaving an impression that the Wyoming systems were commenced anterior, rather than subsequent, to the Greeley-Poudre project, and its only evidentiary value lies in its manifestation of the length to which its author would go to cloud the record on the subject of priorities. We are at a loss to know why plaintiff should have caused this fictitious map to be prepared, and the more, why it should have been offered in the face of a complete record of contradictory evidence.

Plaintiff's counsel, on page 37 of their brief, seek to capitalize this and other numerous mistakes of their witness, by stating that this "expert" cheerfully admitted and corrected his mistakes, although such mistakes, in truth admissions of error, were always reluctantly obtained through rigid cross-examination and were usually almost as glaring and incompatible with the facts as are the fictitious assumptions of this "expert" on his Exhibit "G." He was enabled to frequently correct the "mistakes" in his other testimony, but, once introduced, the fallacy of his map, Exhibit "G," could not be so readily corrected, and displays his reckless treatment of the facts, and yet this is the witness whose attempted criticism of the testimony of John E. Field, State Engineer of Colorado (4293), counsel for plaintiff quote for the purpose of discrediting all of the testimony of Mr. Field (page 37). Fortunately, all of Mr. Field's testimony is amply corroborated by such eminent men as Dr. L. H. Bailey, late of Cornell University,

Professor Louis G. Carpenter, Charles R. Hedke, and many other witnesses, and by photographic and other exhibits, while this witness is not only contradicted by all the testimony, both for Wyoming and Colorado, including his own, but is repeatedly compelled to correct his hasty, ill-drawn conclusions and to substitute others in their stead. We may observe that nowhere in Mr. Field's testimony do we find an Exhibit "G" and a long series of errors reluctantly admitted on cross-examination and repeatedly attempted to be remedied, only to be again confessedly in error.

We need but suggest that the permits, decrees and decisions of two state engineers of Wyoming and the frank statements of every other witness who testified concerning these facts, are superior to and predominate over the unfortunate conclusions attempted to be drawn by this witness, whose map, Exhibit "G," should be eliminated from consideration in order that error and confusion may be avoided.

(b) The Mythical Pioneer Highline Canal.

July 11, 1912, The Laramie Water Company filed in the office of the State Engineer of Wyoming two applications for permit to use, by a system of exchange with the river, water from Lake Hattie Reservoir for the irrigation of lands naturally situated beneath a lateral line, then first conceived, and commencing on the inlet canal to that reservoir just before the water drops into the basin and extending with the natural contours of the Plains around the lake basin and to the east. This *exchange* was to be accomplished by diverting water from the Laramie River by means of the inlet canal of the Lake Hattie system (first surveyed April 16, 1908 and later largely completed), and carrying the same from the inlet and thru this new highline lateral for direct application upon lands irrigable therefrom, and, at the same time, returning and discharging back into the Laramie River, at a point lower down on the stream, water in equal quantity with that diverted at the head-gate of the new 1908 inlet canal.

A certified copy of this application and the map attached thereto were introduced in evidence as Defendant's Exhibit 160. The map shows the line of this canal, which it designates as the "Pioneer Highline Canal," as commencing, *not at the river and not at the old Pioneer Canal*, but, *on the new inlet ditch just above the point of discharge from that canal into Lake Hattie*. This map and the application also shows that it was the *newly* conceived intention of this company to intercept water flowing from the *Little Laramie River* through the new Lake Hattie Supply Canal No. 2, first surveyed in June, 1910, and likewise to compensate for such intercepted water by de-

livery of equivalent amount from the Lake Hattie Reservoir back to the river.

By the express provisions of the application for permit (Exhibit 160, part 2) for this new highline lateral ditch from these two 1908 and 1910 canals, and thus to be constructed at some possible future date, the waters to be by it conveyed are limited as follows:

"Waters to be diverted from the Laramie River for use under the terms of this application is to be carried through the Pioneer Canal *enlargement* (see permits 8612 and 2113 Enl.). The right is sought for permit for direct use from Big and Little Laramie rivers from lands served by the Pioneer Highline Canal.

(1) *by the use of the waters appropriated under permits 8612 and 2113 Enl.*, directly through the Pioneer Highline Canal instead of being stored in Lake Hattie Reservoir, and then applied to lands described under secondary permit 8613;

or (2) *by returning stored water from Lake Hattie Reservoir* (1372 Res., and 1373 Res.,) to the Laramie River, equal in amount to that diverted from the Big or Little Laramie rivers for the direct use on lands served by the Pioneer Highline Canal;

or (3) *by the use of water appropriated under permit 8518* directly through Bell Supply Canal No. 1 into Lake Hattie Supply Canal No. 2 into the Pioneer Highline Canal instead of being stored in Bell Reservoir No. 1 (permit No. 1331 Res.) and then applied to the lands described under secondary permit No. 8521, primary permits Nos. 1331 Res., 2051 Res., 2052 Res., and 8518, 8519, 2538 En., 11016, 11017, 11018, 11019, 11020, 11021, 11022 and Reservoirs in Colorado many further additional and supplemental supplies."

It will be observed that all of the foregoing permit numbers pertain to appropriations of water theretofore permitted to The Laramie Water Company's system from the Big and Little Laramie Rivers and not otherwise, the earliest of these permits being No. 8612 filed April 21, 1908 and predicated on surveys begun immediately prior thereto (Defendants' Exhibit 159). (See table of Laramie Water Company's permits heretofore appearing.)

In order that the intentions of the claimant might be in no way misconstrued and that no one could ever assert that they claimed the right to use any priority of water earlier than April 21, 1908, the applicant further limits itself as follows:

"It is understood that nothing contained in this permit shall be construed as meaning the additional appro-

priation of any amount of water in excess of the total amount covered by permits heretofore issued as a part of The Laramie Water Company's system."

On January 8, 1913, State Engineer A. J. Parshall granted permit No. 2719 Enl. upon the foregoing application (Exhibit 160) so containing its own limitations relative to the appropriation from which the supply of water was to be derived. But in order that no possible claim could ever be made for water other than that specifically described and limited in the specification, viz.:—beginning with priority 8612 of April 28, 1908, the state engineer imposed the following limitations and conditions:

"Waters diverted from the Big and Little Laramie rivers under the terms of this permit in excess of the amount covered by permits heretofore used, must be immediately returned in equal amount to the Laramie River from the Lake Hattie Reservoir, in such manner as to in no way interfere with prior rights on the Big or Little Laramie Rivers."

Under the Wyoming law the appropriator must have a permit before he is authorized to enter upon the construction of his canal. No right or appropriation can possibly vest until a permit is granted. The granting of the permit and the vesting of the right are coincident. Hence it is that whatever right is granted by the State of Wyoming in the exercise of its sovereign authority over the waters within its own borders, is limited absolutely by the conditions included in the permit at the time of the grant.

Here we find that this lateral canal, by means of which The Laramie Water Company was permitted to include additional acreage under its system, was limited at its birth to the use of only such waters as were represented by permitted appropriations theretofore granted to The Laramie Water Company and its predecessor since April 21, 1908, and no more. In other words, it is only permitted to use water of priority date beginning with permit No. 8612 of April 21, 1908, and including the benefit of the subsequent priorities and permits granted that system up to and including the year 1912, and by the terms of the permit itself *no claim could be made for any earlier appropriation than that represented by this permit 8612.*

Notwithstanding the limitations thus self-imposed by The Laramie Water Company, the appropriator, and by the State Engineer of plaintiff state, this mere lateral canal thus filed July 11, 1912, but granted the benefit of use of water on exchange from appropriations beginning with April 21, 1908, is

used through its name "Pioneer Highline Canal" as the pretender by which The Laramie Water Company and plaintiff state now seek to antedate The Laramie Water Company's claims over those of the Greeley-Poudre system in Colorado. While this permit is regular upon its face and most explicit and definite in its limitations and constitutes the solemn decree and admission of the plaintiff sovereignty as entered by its officer, the state engineer, the ingenious designation of the canal is sought, without the slightest foundation in fact, and in absolute contradiction of the solemn decree of the state, to be coupled with random, disconnected previous acts of parties foreign to the enterprise, in order to obtain semblance of early priority.

It will be recalled that Trowbridge and Niver of Chicago sent their engineer, Mr. Sevison, into the Laramie Plains district to explore, locate and survey the Lake James and Lake Hattie systems during the spring of 1908 (605); that on April 16, 1908, he commenced the first survey on the Lake Hattie system (646); that the whole matter was one of first impression to him and that no old maps or surveys were given to or followed by him (661); that as a result of these surveys the entire new Laramie Water Company's system was inaugurated and in part subsequently constructed, and it is upon faith of these surveys and the permits subsequently filed that this Pioneer Highline permit was granted.

It will be further recalled that after beginning work on Lake James, Mr. Sevison first made a survey of Lake Hattie to see if it could be feasibly converted into a reservoir (653); that having so determined, he sought a proper line for an inlet canal from the Big Laramie to the lake, and in so doing surveyed three preliminary *inlet* canal lines (not highline laterals) from the Big Laramie River to Lake Hattie (652); that by these surveys he found that the old Pioneer Canal occupied in part the natural and most feasible location for construction of the upper portion of a new inlet canal to this natural lake or reservoir (652); that the mountains in this vicinity rise abruptly from the table land of the Laramie Plains; that the natural location of a ditch line follows the toe of these mountains at the point where they leave the plains; that the Pioneer Canal occupied the upper portion of this strategic position and that by building a new canal beside or within the old canal by enlargement from the river to Sodergreen Lake and there diverting and running the new ditch at right angles to the old canal along the toe of Sheep Mountain, the best and most economical line for the new inlet canal would be selected. (652.)

While good engineering dictated that it would be most economical to build the new inlet canal by enlarging the old

Pioneer as far as Sodergreen Lake, the promoters of the Lake Hattie enterprise had no interest in the old Pioneer Canal and it formed no part of their original plan of development (661.) While the construction of the new canal for part of its way through the old line by enlargement would afford the required additional space and need in no manner interfere with the use of the old canal for conveyance of water for irrigation of its lands, nevertheless it was necessary to make satisfactory arrangements before the promoters of the new enterprise could enter upon and enlarge their old canal.

Mr. Sevison's efforts were in nowise directed toward the survey of any canal corresponding to the Pioneer Highline (as improperly asserted on page 77 of the Wyoming brief) for the direct irrigation of any lands, but were directed solely toward the utilization of the Lake Hattie Reservoir as a storage basin for irrigation of lands by means of inlet and outlet canals thereto and therefrom. As he surveyed for the inlet canal around the toe of Sheep Mountain at the western edge of the Laramie Plains along this strategic position so fixed by nature, which every engineer must inevitably follow, by pure accident and without knowledge or information of any previous surveys, he encountered a few old stakes from time to time, but which he in nowise followed or regarded as he proceeded with his new surveys (660-1.) Of these old stakes he said:

"No old maps were given me that I followed and no old surveys. Until I ran into those stakes I didn't know there had been any survey run there. I would think that these stakes had evidently been placed on some preliminary line run from the Pioneer Canal in the neighborhood of Sodergreen Lake. They would indicate a grade line run from Sodergreen Lake (661.)"

I do not know by whom these old stakes on the Highline, which Mr. Corthell mentioned, were placed. Judging from their condition they were pretty well weather beaten. I should say they were ten years old anyway.

It is nothing unusual to find stakes of old surveys in running lines. *This was the natural and most feasible line for the continuation of the lateral or highline from the Pioneer Canal. (660-1.)*

I should say *they were indicative of a fly line survey or preliminary survey. They certainly were not final location stakes."*

Of the Pioneer Canal, the enlargement of which for a short distance along the upper part of its course was most feasible in constructing the new inlet canal for Lake Hattie, Mr. Sevison says:

"It was not a part of the original plan to take the Pioneer Canal (661)."

Accident and natural conditions alone suggested some arrangement with the Pioneer Canal people for increased capacity to make room for the new and foreign water of the new inlet canal without in anywise interfering with the use of the old canal for service of the lands beneath it. An arrangement to this effect was not completed until about one year subsequent to the time of the Sevison survey for the Chicago promoters (662.) The old canal had a capacity of about 300 cubic feet per second and subsequently it was enlarged only in that portion from Sodergreen Lake upward to the river, to a capacity of something over 1,200 cubic feet per second, but this old canal was in no way enlarged or disturbed from Sodergreen Lake to west of Laramie City and it still performs the same and presumably only those functions for which it was originally constructed. (656.)

The new enterprise was being constructed purely under rights obtained by permits granted upon and following the Sevison surveys and the mere fact that this old canal was enlarged had absolutely no bearing and in no way involved the old appropriations of water theretofore and since hitherto used for the irrigation of lands situate beneath and by it served. All enlargement diversions of necessity fall under the 1908 and subsequent appropriations and are governed entirely by the permits authorizing the enlargement.

The old Pioneer Canal was constructed on low grade from the stream to Sodergreen Lake at the edge of the table land. From the lake the canal was constructed, without regard to fall or grade, northeasterly toward and beyond Laramie. In other words, while the canal followed a line or grade conforming to good engineering from the river to Sodergreen Lake, this plan was abandoned beyond that point and a continuation of the grade line of the upper portion of the canal would have followed the base of Sheep Mountain around to the north and then to the east of Lake Hattie Reservoir rather than passing along the direct line toward Laramie.

Any inlet canal constructed from the river to Lake Hattie for the purpose of carrying water to that lake would naturally have followed this grade line around the base of Sheep Mountain after leaving the Pioneer at Sodergreen Lake. Such would be the condition, not by selection, but by necessity, and any inlet canal surveyed from the river to the lake would not necessarily have any reference to or connection with any possible lateral line continued on around the lake to the northeast.

During the early 80's and 90's, some desultory reconnaissances and random, disconnected investigations had been made

by some four or five persons for a possible lateral from the Pioneer Canal at Sodergreen Lake, for possible irrigation of lands from the Pioneer Canal, and not at all for the purpose of utilizing Lake Hattie as a reservoir. All of these surveys, as we shall later observe, were insignificant, preliminary, and were not followed either by filings with the State Engineer or any construction, and all of them passed into the legendary stage long before the Chicago promoters entered the field without knowledge of them, through the Arnold Engineering Company in 1908.

Mr. Sevison was looking for a means of constructing a new inlet canal from the river to Lake Hattie Reservoir, without any reference to the old Pioneer Canal or any of its visionary laterals. He had no knowledge of any previous surveys, and gave no heed to some of the preliminary stakes which he found upon the ground and which had evidently been left by surveyors in these early preliminary reconnaissances.

In spite of these indisputable facts, a fictitious connection is sought between this mythical lateral, dreamed of but never constructed, and the different locations of each of these old random surveys, and at the same time, contrary to all the record, the language used would imply that the construction of the new Lake Hattie inlet, surveyed without knowledge of or reference to this old imaginary lateral, was in fact construction of the lateral. In addition, it is asserted:

"It is interesting to note that the Lake Hattie system was constructed by the owners of the Pioneer Canal."
(Page 76.)

It is true that the promoters of the Lake Hattie system, by necessity, made arrangements whereby they could *enlarge* the old Pioneer Canal for a short distance between the river and Sodergreen Lake and to that end became part owners in that canal long after they had initiated their project and surveyed and obtained permits for their new reservoir and inlet. But to state that the Lake Hattie system was constructed by the owners of the canal is to wrongly imply that the original owners of the Pioneer Canal had undertaken to construct and complete Lake Hattie system. Such was not the case.

Following this false premise, counsel, on page 76 of their brief, then seek to incorporate the several early preliminary reconnaissances made with relation to an imaginary lateral from the Pioneer Canal, with the surveys made by Mr. Sevison, contrary to the testimony of Mr. Sevison and the entire record, including all of the permits under which the Lake Hattie system claims. Notwithstanding the fact that Mr. Sevison positively stated that his surveys for an inlet canal to Lake Hattie had no reference to any so-called Pioneer Highline Canal, they state:

"When Sevison made his survey preliminary to actual construction of the highline canal, he found the stakes of one of these old surveys and followed the line so marked very closely."

In the first place, there never was any construction upon any highline canal or lateral in 1908 or at any other time. Mr. Sevison so stated, and so did Mr. Bishop, the engineer who finally filed the application for permit for a different lateral from a different ditch but with a similar name. Sevison did survey the new inlet canal (not lateral) from Sodergreen Lake to Lake Hattie purely, and only, for carriage of water from the river to the new reservoir, and this inlet was later largely completed, and in following the toe of the mountain he did, accidentally and casually observe some old stakes, but he specifically says that he gave no heed to them and that his survey had no reference to any previous reconnaissance or survey. The so-called "Pioneer Highline" lateral is still a myth. It has not and never has had any existence. It consists, even to this day, of a mere speculative line indicated upon a map.

After having left the erroneous impression that the Lake Hattie system was constructed by the original owners of the Pioneer Canal, and, further, that construction of the new inlet canal under the Sevison surveys for the Chicago parties following 1908, was construction on the mythical Pioneer Highline, counsel then seek to take improper advantage of these former random surveys in the following language:

"That their predecessors had made surveys from time to time commencing in 1886 for a canal substantially identical in location with the Pioneer Highline Canal." (76.)

Counsel then allege an 1886 survey reconnaissance made by Lobach and Bellamy, and another in 1897-8 by Roach and Owen, and finally claim benefit of a 1908 survey made by Roach in an entirely different location upon the Laramie Plains.

Excuse for these claims was first alleged by the false assumption of an 1897 priority of claim for the Greeley-Poudre system, which we have previously discussed in connection with the Colorado diversions. There it was shown that no semblance of any such priority claim was made for the Colorado appropriation, and that while on the contrary, August 25, 1902, was the one and only priority date claimed for that enterprise, it best suited plaintiff to contend for an earlier date for Colorado in order that it might have semblance of excuse for claims on the part of The Laramie Water Company's system.

The apparent fallacy of these fictitious claims in the face of

all The Laramie Water Company's permits and appropriations, and the express claims, conditions and limitations of the Pioneer Highline permit, which was never even initiated prior to 1912, should relieve us from giving them further consideration were it not for the fact that by ignoring them injustice may result, and we shall therefore enter upon a somewhat detailed discussion of the record.

All of these disconnected surveys which we shall consider are doubtless immaterial for the following reasons:

(b-1) The Pioneer Highline Canal has never been constructed, either in whole or in part, and was never surveyed until long after the filing of this suit, and any and all previous reconnaissances or surveys of any canal of similar name but by parties foreign to the new enterprise, have no connection with or bearing upon the new lateral of The Laramie Water Company;

(b-2) Claim for such a canal was never filed with the State Engineer of Wyoming and was never presented to the Board of Control or to the District Court during proceedings for the adjudication of water rights on the Big Laramie River in Wyoming, or the review thereof (which terminated in the decree, Plaintiff's Exhibit "N");

(b-3) Any and all claims for a Pioneer Highline Canal, except those represented by permit No. 2719 Enl., filed July 11, 1912, are forever barred by Section 794 of the Compiled Statutes of Wyoming, 1910, requiring all persons to appear and submit their claims for adjudication before the Board of Control of the State of Wyoming; and

(b-4) Because the State of Wyoming and its appropriator, The Laramie Water Company, are bound and limited by the terms of the permit No. 2919 Enl., filed July 11, 1912, and are precluded by the findings and conditions of said permit-decree from asserting any other or different claim for other or different priority from that set forth in said instrument.

We have already discussed at length the conditions and limitations of the permit issued January 8, 1913, and have covered the objections raised in the last of these subdivisions.

We will discuss the first three in their order.

(b-1) No Such Canal Ever Constructed and no Connection Between Recent Permitted Survey and Other Reconnaissances.

Lyman E. Bishop, resident engineer for The Laramie Water Company, came to Laramie in July, 1910. The idea of making a definite survey of the Pioneer Highline Canal seems to have first occurred long subsequent to the filing of this suit. This survey, *in its entirety*, was undertaken by Mr. Bishop and by

no other engineer preceding him. He made both the preliminary and final surveys and certified the application for permit filed with the State Engineer on July 11, 1912. He says:

"During 1912 * * * made *preliminary and final* location surveys of * * * Pioneer Highline Canal." (774.)

On cross-examination he further says:

"The Pioneer Highline has been finally located * * * Practically no construction work has been done. The headgate will be * * * located in Lake Hattie Supply Canal No. 1." (785.) (*Not on the Laramie River or Pioneer Canal, but on the inlet canal to Lake Hattie Reservoir.*)

"If the Pioneer Highline Canal is ever built * * * there will be a crossing over the Lake Hattie Supply Canal No. 2 and the Pioneer Highline Canal will be so constructed that Bell Supply No. 2 water could be run into the Pioneer Highline from that point." (795.)

We have already noted that no previous surveys had any connection whatever with the surveys upon which are predicated the various permits and rights obtained by the Laramie Water Company. (661-3.)

The present new 1908 inlet canal to Lake Hattie Reservoir does not follow any of the lines of earlier surveys. (935, 939-40.)

S. C. Downey, a witness for the complainant, described each of these early reconnaissances. He said:

"The present canal leading to Lake Hattie Reservoir does not follow the line of the survey as shown by the * * * Bellamy or the Owen survey. * * * The topography of the country would naturally throw them somewhat in the same location." (935.)

Of these early surveys he said:

"I have produced what purports to be a report made by each of four surveyors, d'Hemecourt, Loback, Anderson and Owen.

Each of these was an individual attempt to promote the scheme which I have outlined. Each report is an engineer's prospectus rather than a report on a definite survey basis. By that I would say it is a general report rather than a detailed report of the survey.

In each of these reports the Highline Canal is quite evidently located at different places, and in each instance

is a mere open canal without any difficulties of construction.

The High Line ditches, in any event, in order to irrigate lands situated at the higher levels than those irrigated by the Pioneer Canal, *would of necessity be limited in their location between the base of Sheep Mountain and Sodergreen Lake on the Pioneer Canal.* * * *

Any competent engineer, in running any line for the irrigation by a higher line of ditch than the Pioneer canal would be forced to place his line through the vicinity." (939-40.)

After mentioning in detail the several early surveys, he said:

"The ditch was not built on that survey" (927) (referring to the d'Hemecourt survey.) * * * *"The survey made by Mr. George C. Anderson * * * in 1890 * * * was independent from the surveys made by d'Hemecourt. * * ** I am not able to produce a plat of the surveys made by Mr. Anderson, I don't believe one was ever made. * * * *The ditch was not constructed under the Anderson survey."* (929-30.)

*"I am unable to produce a plat of the survey made by Mr. Loback. The Anderson and Loback surveys were never filed for record of my knowledge. * * * The ditch was not constructed under the Loback survey."* (929-30.)

The witness then produced Defendants' Exhibits 16 and 17, designated as the Owen and Bellamy surveys respectively, and states:

"The ditch was not constructed under the Owen survey. It was not constructed under the Bellamy survey. The Wyoming Central Land & Improvement Company authorized the Owens survey for the Pioneer Canal. The same people authorized the Bellamy survey. This company had four distinct surveys made at different times in this proposed project. The last of these four was the Bellamy survey, in 1893." (931.)

He then speaks of certain disconnected surveys subsequent to 1902, having no connection with those made by Severson or Bishop and no connection with any former surveys by any other engineers, and again speaking of the Owen survey, says:

*"The ditch was never constructed * * * as shown by the Owens survey."* (933.)

The witness then admitted that the Owens survey and the Bellamy survey were in no way similar except as thrown in a general vicinity by the topography of the country. (933-5.)

We fortunately have the testimony of Mr. Bellamy who made the last of the four original surveys, terminating in 1893. He says:

"In 1886, Mr. Loback and myself ran a number of lines west of town and over that country. *It was a mere reconnaissance.*" (751.)

"Some reconnaissance work was done in 1886, or '87 relative to the Pioneer. *They did not proceed with the construction.* It was simply to see the possibility of sometime running a ditch there. We started with two buggies and I would get out of one, set up the instrument and send the man ahead where I could take a long sweep and sight with my gradient what the fall of the ditch would be, allowing it to run nearly straight and then allow a little and then have him hold the rod with the target the same height as the instrument. Then I would ride to him and he would go on.

We spent two or three days going over the plains between the two rivers." (769.)

"Mr. Loback did the same in '87, only he staked out a line. *No construction was done.*" (769.)

"*The matter was to take a ditch from the Pioneer and run it at a higher elevation with a little less fall.* The Pioneer there has a very heavy fall, in one place, and we thought by coming out ahead of that and around to see how much more he could take in by making a high line of it and picking up waste fall." (769.)

"*In 1893 I had started to stake this out when the panic came on and everything shut down and they dropped it entirely.*"

"*There were no filings made on my original survey which was incomplete.*" (771.)

The fallacy of any claim of connection between the Bishop-Laramie Water Company—permit of 1912 for the so-called Pioneer Highline and these old surveys is thus exposed by Mr. Bellamy, who was a witness for the State of Wyoming.

"The present works are entirely disconnected from my surveys and also the '86 and '87 surveys by Mr. Loback and me, which ended in naught. Lake Hattie was not a reservoir in those days." (771.)

According to the testimony of both witnesses Downey and Bellamy, all the earlier surveys went into oblivion and were

practically forgotten and never revived by the Pioneer People. In 1906 or '08, and more than four years subsequent to the commencement of the Greeley-Poudre project in Colorado, engineers Roach and Stewart made certain similar desultory reconnaissance surveys which came to naught. Mr. Roach had assisted Mr. Owens in one of the early surveys which passed into oblivion and states that the 1906 reconnaissance began at a still different point on the Pioneer Canal than that taken by all previous engineers. He says:

"R. G. Stewart was consulting engineer * * * I had orders either from him or Mr. Corthell" (referring to N. E. Corthell, counsel in this case) "*to go out there and start one or two places and run a line.*"

I ran a line independent of any survey. I did not run across any surveys made at that time by the original company or their representatives. I consumed about six days in the field making this survey.

Mr. Corthell and I had a dispute as to who got the map or plat of this survey. I do not know what became of it." (972.)

I have been unable to give any definite location of my old High Line survey.

No canal has been built following the line of that survey.

If the *Lake Hattie supply canal* is correctly shown on the map attached to defendants' answer, then *my line was different*. We started at several places from the Pioneer Canal. I did not tie to anything there, everything was done with angles. * * *

The present Lake Hattie Supply canal was built very close to one of my surveys. It was not built from my survey." (974-5.)

The applications filed with the State Engineer of Wyoming beginning with April 21, 1908, and upon which permits were granted for the various units of the system now owned and projected by The Laramie Water Company furnish the most conclusive proof that no Pioneer High Line, or any other similar canal, was ever contemplated by the promoters of any of the several units of that system prior to the survey commenced long subsequent to the filing of this suit and immediately preceding the filing of application for permit for the Pioneer High-line lateral on July 11, 1912.

The Statutes of Wyoming (Section 734, Compiled Statutes, 1910, and section 5, Ch. 45, Laws 1895), require:

"*Each application for permit to appropriate water for beneficial uses must be accompanied by a map or plat*

in duplicate, showing accurately the location and extent of the proposed works * * * the course of the river, stream or other source of supply, * * * the *location of the intersection with all other ditches, canals, laterals or reservoirs which are crossed by this work with which connections are made*; and all streams not connected with the proposed work must be represented in ink of different color from that used to represent the proposed work." etc. (3913-14, original record.)

In other words, if any such canal or survey as the Pioneer Highline lateral had been known to Engineer Sevison at the time of making his 1908 survey, or to his successor, or had been seriously contemplated by his employers or any of their successors, including The Laramie Water Company, it would have been proper and *necessary* for Mr. Sevison and succeeding engineers to have noted *on the maps* which accompanied each application for permit the *location of the line and point of intersection* of the canal for which permit was requested, with that of the imaginary Pioneer Highline canal. *Failure to so note the line of this imaginary lateral on any and all of the maps accompanying the several applications for permits is evidence of the fact that such canal was neither known nor contemplated at the time of preparing such maps and filing such applications.*

An inspection of the certified copies of the maps accompanying the several applications so filed (Defendants' Exhibit 159 et seq.) shows that the maps and plats filed with each successive application for permit, from the first (filed April 21, 1908), to and until that for the high line lateral from the new Lake Hattie inlet (not Pioneer Canal), filed July 11, 1912, are *conspicuous for their entire omission* of any notation either by line, words or figures, whereby the slightest inference may be drawn that the Pioneer Highline Canal was ever known or contemplated.

The first permit, No. 8612, filed April 21, 1908 (Defendants' Exhibit 159), shows merely the location of the Lake Hattie Supply or new inlet canal from the river to Lake Hattie Reservoir and the upper contour of the reservoir. At no place on this map portraying in detail the new inlet canal for Lake Hattie Reservoir (which counsel, on page 77 of their brief, erroneously designate the Highline canal) is there any notation indicative of any reference to or connection or intersection with any such Pioneer Highline lateral, real or imaginary, and at no place in the permit or the granting clause thereof is there any reference to any such canal or any permit, filing, survey, claim or application for or on its behalf.

The same observation obtains with relation to permits 8613,

1372 Res., and 1373 Res., for the Lake Hattie Reservoir, and 1939 Enl. for the enlargement of the new inlet canal (permit 8612) from the river to Lake Hattie Reservoir, and the maps accompanying each thereof.

If the Pioneer Highline Canal had been in contemplation on December 5, 1910, the point of crossing and intersection between the new inlet canal from the Little Laramie River to Lake Hattie, known as Lake Hattie Supply Canal No. 2, would undoubtedly have been noted on the map accompanying the application for this canal. An inspection of the map accompanying the application for permit (No. 10363, Defendants' Exhibit 166) reveals the fact that no such point of intersection or crossing is noted and indicates the entire absence of notation of any prospective line of canal situate in the vicinity of or designated as this imaginary lateral. It is apparent that The Laramie Water Company had not, even at that late date conceived the idea of constructing such a lateral, and apparently did not know of its evidentiary possibilities.

Even more positive becomes this conclusion upon examination of the map attached to application for permit No. 2720 Enl. (Defendants' Exhibit 167) applying for right to enlarge this same inlet canal from the Little Laramie River, for even on this map there is no indication of any such canal as the Pioneer Highline Canal, or of any intersection with any canal similarly located.

All these maps confirm and corroborate the evidence of Engineer Bishop, already referred to, that he made both the preliminary and final surveys of the Pioneer High Line lateral during 1912, and not theretofore, and confirms the fact that the idea of constructing this canal is an after-thought, first conceived by The Laramie Water Company and its predecessors during 1912, and long subsequent to the filing of the bill of complaint herein. They likewise confirm the conclusion that the selection of the name "Pioneer Highline" was either a fortunate accident or an unwarranted attempt to capitalize legendary accounts of "visions" of other persons, in nowise bearing upon the new lateral thus so recently projected.

Counsel, on pages 76-7 of their brief, make the erroneous statement that all of the Sevison work, beginning in April, 1908, had some connection with these former and wholly foreign investigations made many years previous by different parties with different interests and objects, and that the construction which commenced in the year 1909 was upon this Highline lateral, when in truth the only construction ever undertaken in this vicinity by The Laramie Water Company or its predecessors was that of the new inlet canal to Lake Hattie, having no relation whatever to any previous ideas of the Pioneer Canal

people and not having in contemplation any extension beyond the point of discharge into the reservoir.

No color of foundation exists for any such assumption. The entire record discloses its fallacy. Even the new lateral permit, the only one ever granted for this or any other Highline canal or lateral, specifically and affirmatively denies their assertion and specifically states that the water to be by it used relates exclusively to the new and not to the old system.

For Wyoming and her appropriators to make such an assertion is as preposterous as would be the assertion or claim by Colorado that her Greeley-Poudre project—in truth commenced August 25, 1902—is nevertheless entitled to assert a claim as of the date of the "wounded deer" incident of Wallis A. Link, to which we have heretofore at length referred, or to assert that she is entitled to priority of the late seventies or early eighties because, perhaps, certain railroad surveys along the Cache la Poudre River included a tunnel for transportation and water diversion at the present location of the Greeley-Poudre tunnel, or, John Zimmerman, of Home, Colorado, made preliminary-survey of this same tunnel line for irrigation diversions, neither of which were ever communicated to Wallis A. Link or A. I. Akin prior to April 25, 1902, but the truth of which they later accidentally discovered. Any such evidence would be fictitious, irrelevant and immaterial and pure sham and its offer improper by reason of the fact that these early acts have no direct bearing upon the Greeley-Poudre project, and could not be legitimately connected with its initiation and construction, even though the early surveys did occupy the exact position of the present tunnel.

Fictitious as any such claims would be, they are on a par with those now solemnly asserted by plaintiff, and are as abandoned and long since completely dead and forgotten as were the early reconnaissances on the mythical Pioneer Highline canal.

Even though the "wounded deer" incident aroused the imagination of Mr. Link, who later initiated the construction of the Greeley-Poudre tunnel, it would be insufficient upon which to predicate a priority constituting the basis and principal value of the title to a great water system. All such early visions, reconnaissances and ideas have some pleasant historical interest, but, like the dreams of inventors or of prospectors seeking for precious metals, are no basis for patent or title, which alone can vest upon open, well-directed efforts, followed with such diligence and compliance with formalities of law as the circumstances and good faith toward other inventors and miners, as well as to the state, may require of those who would thus claim as their own that which theretofore was the property of everybody and yet of none but the sovereign.

We believe further discussion unnecessary to show that the new lateral from the new inlet canals to Lake Hattie, first surveyed in 1912, and whose possibility seems to have been discovered long after the filing of this suit, has nothing in common with any previous reconnaissances made long years since by different persons, at different times, in different localities and with different objects; that it is simply a survey of a mere lateral for carrying water to be diverted from the Big and Little Laramie rivers by new canals constructed since 1908, under authority of new permits, none of them earlier than April 21, 1908, and has no real or imaginary relation to the old Pioneer Canal or its appropriation of water, but on the contrary, is specifically prohibited from carrying any of the same; that it is not to be constructed along the line of or pursuant to any previous survey for any similar canal to carry water of the Pioneer Canal or of any other ditch or stream, but is a new and independent idea in no manner related to any former theories; that the adoption of the name "Pioneer High Line" is a misnomer in that the newly surveyed lateral bears no possible relation to the Pioneer Canal or the carriage of its waters, and that any argument seeking to connect either this lateral or the principal canals, the new Lake Hattie inlets, with the Pioneer Canal or any "early" survey of any lateral line from that canal is wholly unwarranted by the evidence, and cannot conceal the fact that all the new Laramie Water Company's projects are six years and more junior to the Greeley-Poudre project in Colorado.

(b-2 and 3) No Claim of Appropriation for any Such Canal Ever Filed with State Engineer of Wyoming or Made Before the Board of Control or District Court at Adjudication of Priorities on Laramie River.

It is not only necessary under the laws of Wyoming that any person desiring to acquire right to the beneficial use of public water shall make application to the State Engineer for a permit before commencing the construction and enlargement or extension of any ditch or performing any work in connection with any canal (3910. Sec. 724, Comp. Stats. Wyo., 1910), but it is also imperative that such persons thereafter appear before the State Board of Control where the rights of the various claimants to the use of water upon the stream are adjudicated and determined (3917, Sec. 794, Comp. Stats. Wyo.).

The statute reads:

"Whenever the state board of control shall, as provided by law, proceed to adjudicate and determine the

rights of the various claimants to the use of water upon any stream or other body of water, *it shall be the duty of all claimants interested in such stream, to appear and submit proof of their respective appropriations, at the time and in the manner required by law.*"

The same statute then continues:

"and any such claimant who shall fail to appear in such proceedings and submit proof of his appropriations shall be barred and estopped from subsequently asserting any rights theretofore acquired upon the stream or other body of water embraced in such proceeding, and shall be held to have forfeited all rights to the use of said stream theretofore claimed by him." (Wyo. S. L. 1901, Chap. 67, Art. 2, Comp. Stats. Wyo., 1910, Section 794).

An adjudication of priorities to the use of water from the Laramie River in Wyoming was had before the Board of Control and an appeal from decision of the board was taken, prosecuted and perfected to final judgment and decree prior to the filing of this suit. (1042, Plaintiff's Exhibit N.)

It accordingly appears that all claims for any "Pioneer High Line Canal" must have either been presented at this adjudication proceeding or forever barred and forfeited.

No evidence in this behalf was introduced by Wyoming, and it became necessary to ascertain the truth by thorough search of all official records.

This search (3930-2) revealed:

That no application for permit or filing (other than that made by Engineer Bishop for The Laramie Water Company on July 11, 1912) had ever been filed or made with the State Engineer or Board of Control or other officer of the State of Wyoming for any "Pioneer High Line Canal" or any other similar canal by another name, or for any lateral ditch from the old Pioneer Canal or the new inlet to Lake Hattie for the service of the lands to be served by such a lateral if ever constructed;

That no claim in behalf of any such canal under the name of the "Pioneer High Line Canal" or otherwise had ever been made in the proceedings for the adjudication of priorities of water rights from the Laramie River before the Board of Control or in the proceedings on appeal for review of the decree of the Board of Control to the District Court and terminating in the decree (Plaintiff's Exhibit N); and,

That the application of July 11, 1912, is the first and only filing or claim ever made or asserted of record in behalf of any such a canal or lateral, before any of the officers of the State

of Wyoming having to do with the administration and distribution of the waters of that state.

The above facts are in no way controverted by the complainant and it therefore conclusively appears that no claim for or previous assertion of right in behalf of any such lateral canal was ever made by any person or at time prior to July 11, 1912.

By failure to make any previous claim, The Laramie Water Company and plaintiff state are forever barred from now and here claiming the benefit of any of the disconnected and abandoned previous reconnaissances at length described in the previous section (b).

(b-4) Permit No. 2719, Ent., Filed July 11, 1912, Limits Claims and Bars Assertion of Any Prior Rights.

This topic has been sufficiently discussed at length in the preceding paragraphs. There we observed that by the terms and conditions set forth both in the application filed July 11, 1912, and permit granted January 3, 1913, no claim or assertion is made for use of any water to be diverted from the Big Laramie River by the old Pioneer Canal, but, on the contrary, the only claim made or right granted is for use exclusively of water to be diverted from the Big and Little Laramie Rivers under authority of Permit 8612, filed April 21, 1908, and permits subsequently granted to the Laramie Water Company and its predecessors, and that even as to such, no increased diversion shall be made in excess of that authorized by such recent permits of April 21, 1908, and subsequent.

The appropriator having thus made no assertion or pretense of claim of benefit or advantage of the few desultory investigations with relation to the old Pioneer Canal many years ago and inferentially waived and admitted the worthlessness of any such, and having specifically limited his claim for water to that permitted for diversion six years and more junior to the Greeley-Poudre enterprise, and the plaintiff State of Wyoming having accepted and approved the limitations self-imposed by the appropriator, and having further limited the right to the effect that *the use of this new canal shall "in no way interfere with prior rights on the Big and Little Laramie Rivers"* and that the exclusive function of this new lateral shall be that of carriage (rather than diversion) of a portion of the water so permitted as of 1908 and subsequent, neither the appropriator or the state can now be heard to assert any other or greater rights or privileges than that contained in the application and permit.

(b-5) *Conclusions In Re High Line Lateral.*

The foregoing exhaustive review of the evidence relative to the mythical High Line Canal, demonstrates:

- (1) That no such canal ever has or does now exist;
- (2) That the only record claim in behalf of any such canal bearing that or any other name, is for a mere lateral, subsidiary to the new Lake Hattie system and included within the application of July 11, 1912, and not before, and making no claim from the river;
- (3) That this new lateral and all other units of the new Lake Hattie system have no connection whatever with any prior reconnaissances made for or on behalf of the Pioneer canal people or for use of appropriations of water of that canal;
- (4) That adoption of the name "Pioneer High Line Canal" was a misnomer for that this new survey bears no relation to the old Pioneer Canal or any survey for any high line lateral for use of waters appropriated by it;
- (5) That any and all such prior acts relating to the old Pioneer Canal were forgotten and abandoned long prior to April, 1908;
- (6) That all appropriations pertinent to the entire new Lake Hattie system, including this new lateral from its inlet ditches, began not earlier than April 21, 1908;
- (7) That no claim of appropriation was ever previously recorded or made for or in behalf of any Pioneer High Line canal or lateral or any similar canal by any other name, either with the State Engineer of Wyoming or before the Board of Control or District Court of Wyoming;
- (8) That plaintiff is barred by her statutes and by the terms of the permit for the new lateral so designated, from asserting or claiming any benefit of any early investigations looking toward possibility of future construction of some canal in the same general vicinity; and
- (9) That the terms and provisions of the permit for this new lateral and the whole record justify the conclusion that all assumptions with relation to this so-called Pioneer High Line Canal are wholly without foundation and in no manner contradict or conceal the fact that all new Wyoming projects are upwards of six years junior to the Greeley-Poudre project in Colorado.

(c) *Other Errors.*

Among the many other errors appearing in plaintiff's brief, we desire to call attention to the following:

On page 47, counsel state that the appropriators of the plaintiff state had actually used all of the water of the Lar-

amie River prior to the initiation of the Greeley-Poudre project in Colorado, during 1902, which, nevertheless is several years senior to the new projects in Wyoming. The State Engineers and proper authorities of Wyoming disprove this assertion and have granted appropriation to new Wyoming projects for the irrigation of more than 278,000 acres of land in addition to that covered by all ditches prior to the Colorado diversion, and have also granted right for additional storage of 450,000 acre feet of water.

Notwithstanding construction of the large new James Lake and Lake Hattie reservoirs in Wyoming, all of which were initiated long subsequent to the Colorado project, counsel on page 55 of the brief, complain of the fact that they cannot store their surplus water because "the Wyoming appropriators do not have such reservoirs" for their conservation. We are wholly at a loss to understand this statement which is wholly inconsistent with the one last before mentioned. If ditches senior to the 1902 Colorado project had already consumed the water, there would be no surplus in the river and none to be stored. If there was a surplus and the Colorado project had diverted it, it would leave none for the several enormous new reservoirs begun in Wyoming in 1908, and when in turn, these reservoirs have actually been completed and are ready to conserve water, we are at a loss to see where Wyoming can claim that she is short of capacity unless, which we assert, there is more than enough water to supply all appropriations, senior and junior, both in Colorado and Wyoming.

On page 70, it is asserted that Cooper Lake is a natural lake and that its waters do not flow into the Laramie River. James Lake was allowed to continue in just such a condition up to the year 1908-9, when but a slight cut was required to enable the waters, naturally impounded and wasted, to be used for irrigation of lands tributary to the Laramie River. Cooper Lake is quite similar to James Lake, and Wyoming should not be heard to complain when she permits water to flow into this and numerous other natural basins, there to waste and evaporate, when, by slight diligence, the same water could be made available for irrigation.

On page 78, counsel describe the work on the Greeley-Poudre project as "desultory" and point with pride to the rapidity of construction upon the James Lake and Lake Hattie projects. We have already shown that the Lake Hattie reservoir is but the smaller part of the Laramie Water Company's scheme, and that these two reservoirs constitute that portion of the work most easily constructed. We suggest development might be "desultory" when more than thirty years have been consumed in trying to complete the Pioneer and Wheatland projects, and yet only about fifty per cent of the acreage under

either has ever been reclaimed, and when on the Bell Supply canal, quite similar to the Greeley-Poudre project, only fifteen per cent of the work has been completed during a period of five years and none whatever performed on the Bath, Bell, Robinson and McConnell reservoirs. The destruction of the market for bonds of the Greeley-Poudre system by acts of plaintiff and her appropriators might also have some bearing (Camfield, 2163-5; Iliff, 3661-2, 3665-70, 3682-7).

On page 79 it is asserted that 400,000 acres are "now being and proposed to be irrigated in Wyoming under ditches far older than, or at least contemporaneous with the Greeley-Poudre project." The James Lake, Lake Hattie and other new 1907-8 projects in Wyoming are included in the acreage enumerated. Under the rule of priority, a difference of the smallest division of time is sufficient to give superiority. Projects initiated six years junior to another certainly cannot be either "older than" or "at least contemporaneous with" the former projects. This statement is as wholly foreign to the record as the statement on the previous page to the effect that the Lake James and Lake Hattie schemes were commenced before "final plans of the Greeley-Poudre project were made." It will be recalled that the work had been proceeding upon the Greeley-Poudre project, as at present planned, continuously from August 25, 1902, down to and after the time the Greeley-Poudre Irrigation District contract was made in September, 1909, and especially during the year 1907, and it would be just as reasonable to assert that the appropriation for the old Pioneer canal dates as of 1909 or 1910, at which time the Lake Hattie people acquired control of the affairs of the canal in order to enlarge it as it would be to say that the priority of the Colorado project dates from the irrigation district's contract of September, 1909. The Greeley-Poudre Irrigation District simply took over a project which had been in process of construction for more than seven years, and no changes were made in the original plans. Of course, it would be both pleasing and profitable to plaintiff if nothing had been done on the Greeley-Poudre project prior to September, 1909, but we believe that an expenditure of more than \$296,000 on a project during six short working seasons is sufficient evidence of diligence to have justified the District Court of Colorado in decreeing priority of August 25, 1902, to the Greeley-Poudre project. Very evidently the new Wyoming projects, all initiated in 1907-8 and subsequent, are neither "far older than" nor "at least contemporaneous with the Greeley-Poudre project."

V. GENERAL CONCLUSIONS.

The following general conclusions may be drawn from the record:

(a) That the Greeley-Poudre project in Colorado, including its tunnel and collection ditches and reservoirs, was initiated August 25, 1902, and that work proceeded with diligence and continued in conformity with well defined plans from that date until prevented by the filing of this suit;

(b) That more than \$296,000 had been expended upon the system prior to the Spring of 1908, and that construction had been open, notorious and well known to citizens and officials of Wyoming;

(c) That in Wyoming, surveys first began on the James Lake system March 22, 1908; on the Lake Hattie system April 16, 1908, and on the Sodergreen Highline during November, 1907; that on the Wheatland Industrial Company's projects, while preliminary survey began on the Bordeaux tract in February, 1904, final surveys were made just prior to filing on April 18, 1907, and survey commenced on the Sybille tract in August, 1907, and that none of said or other new Wyoming projects were initiated or work commenced thereupon prior to said dates;

(d) That the Greeley-Poudre project in Colorado is between five and six years senior to any ~~and~~ ^{and} all of the new larger Wyoming enterprises;

(e) That during 1907 and 1908 and subsequently, new permits have been issued for new enterprises for irrigation of 278,153.61 acres of unreclaimed land in Wyoming and more than 450,000 acre feet appropriations for storage in addition thereto have been granted these new projects, thus initiated, beginning with 1907-8, for all of which new projects the State Engineers of Wyoming have found and thereby declared, that there is ample water after supplying *all* earlier and preferred appropriations on both the Big and Little Laramie Rivers.

(f) That the Greeley-Poudre project in Colorado can do no injury to any senior appropriations in Wyoming and that after diverting but a part of the flow of the one branch of the stream which rises in Colorado, more than ample will remain in the stream to supply the needs (without waste) of both senior and junior appropriators in Wyoming.

VI. WYOMING'S DISREGARD OF COLORADO PRIORITIES.

In concluding the discussion of diversions and use of water from the interstate stream in Colorado and Wyoming, it may

not be amiss to observe that some of the tributaries of the Colorado stream, the Cache la Poudre, have their source in the Green and Laramie mountains along the southerly border of the Laramie Plains in Wyoming and flow out of that State into Colorado, where these waters have long since been appropriated to beneficial use; and that, notwithstanding the prior Colorado diversions, Wyoming has proceeded to officially sanction and decree junior appropriations in Wyoming for irrigation of lands at the headwaters of these interstate streams so arising within her borders. (See map, Plaintiff's Exhibit 1.)

Under the subject of "Inter-watershed Diversions," we discuss at length certain diversions of the waters of Fish Creek, as that stream rises and flows in Wyoming, by which injury is occasioned the earlier Colorado appropriators on the Cache la Poudre, of which Fish Creek is a tributary, and reference is made to that portion of the brief to here avoid unnecessary repetition.

Professor L. G. Carpenter, in his exhaustive discussion of the diversions in the two states, says:

"There are instances, other than those I have mentioned from Fish Creek, where citizens and residents of Wyoming are diverting and using waters originating in that state to the detriment and injury of citizens of Colorado.

There are a great many such diversions on *Crow Creek* and *Lone Tree Creek* in Wyoming, which are tributaries of the South Platte and have quite a long list of appropriations in Wyoming, and in addition to that, there are a good many appropriations or decrees which have been adjudicated to rights on *Dale Creek*, and various tributaries of the Cache la Poudre other than Fish Creek.

* * * There are a good many rights on *Crow Creek* for irrigation and other purposes. * * * There are a good many acres that are irrigated from *Crow Creek* in Wyoming and I know also that in *Colorado Crow Creek* has practically no water.

A number of rights for diversion of water, within Wyoming, from *Dale Creek* have been granted by authorities of that state. *These rights have been granted and use is made of waters of this creek in Wyoming, notwithstanding shortage of water in the Cache la Poudre river.*

* * * *Dale Creek* is a tributary of the North Poudre and both the North Poudre and the Poudre River have been short of water for a portion of the year for many years. That is especially true of the North Poudre. *Dale Creek* * * * is a flowing stream throughout its length and the water that is used and taken out in Wyoming undoubtedly depletes the stream in Colorado where

there are existing rights. The adjudicated rights in Wyoming on that stream not only run back for a number of years, but are continually increased, and adjudications are being made from year to year up to the present time. I believe there were some rights adjudicated last year. *By adjudicated I mean certain water rights were quieted and confirmed in owners by the Board of Control of Wyoming, even as late as last year.* I mean users have conformed to laws of Wyoming and their water rights have been so confirmed.

I have in my hand a list of adjudicated rights on Dale Creek and tributaries in the State of Wyoming, obtained from the secretary of the Board of Control of that state. *111 ditches are mentioned in this list of adjudicated rights as having been given decreed water rights out of Dale Creek and tributaries.* This does not include those ditches which have permits but have not gone to final adjudication. There are a good many such permits which have been issued and are outstanding but upon which final proof has not been made.

Diversion of this interstate stream continues in Wyoming notwithstanding shortage on the same stream in Colorado.

Fish Creek is a tributary of Dale Creek and the diversions on the former are included in those just given. On Fish Creek, Wyoming appropriators have not only appropriated water for irrigation of lands within the drainage area of Fish Creek, but even more, they have diverted waters from Fish Creek for irrigation of lands lying outside of its drainage area and in the drainage area of the Laramie River as shown on Defendants' Exhibit 50.

Water is diverted from the Cache la Poudre drainage basin over into the Laramie River basin in Wyoming.

The dam for the reservoir of the water system of the City of Cheyenne, furnishing water for Fort Russell and Cheyenne, was constructed within the last three or four years. Use of water by Fort Russell, I believe has been enlarged and connected. These diversions are from Crow Creek and tributaries. They are from one of the tributaries of the South Fork of the Platte, which tributary joins the South Platte in Colorado at a point a little east of Greeley." (3899-3901.)

It thus appears that while Wyoming would here complain that Colorado, by her *senior* appropriation, is diverting water from the Big Laramie River within her own borders to alleged depletion of water supply which would otherwise be available

to *junior* appropriators from the same stream in Wyoming, she nevertheless has officially permitted, confirmed and decreed *junior* diversions from Dale, Crow and Lone Tree Creeks in Wyoming to the detriment of senior appropriators in Colorado. If the rule of priority of appropriation obtains regardless of state lines, it would follow that the senior Colorado appropriator is doing no violence to the junior Wyoming appropriator whose rights are inferior, and that Wyoming appropriators are only entitled to assert a right to use the residuum of the stream *after* the senior appropriator in Colorado has been fully supplied. But Wyoming is not content to follow the doctrine of priority when the appropriation is made at the headwaters of streams arising within *her* borders, but, on the contrary, deliberately permits her citizens to take Cache la Poudre waters from that portion of its tributaries arising in Wyoming, by means of *junior* ditches, to the *detriment of senior ditches* in Colorado, and quiets, confirms and decrees the right of these late appropriators to continue so to do.

We do not here contend that Colorado has the right to compel the junior Wyoming appropriators to desist from these diversions so injuring senior Colorado appropriators, because the rule of priority of appropriation obtains *only within* the boundaries of each state for the regulation of her own streams in such manner as she may elect, and does not obtain upon interstate streams regardless of state lines, but it would seem that Wyoming should not here complain of the senior Greeley-Poudre diversion from the Laramie River, when Wyoming is not even content to abide an administration of the distribution of water in accordance with the doctrine of priority of appropriation, but officially permits her citizens to violate the rule to the detriment of Colorado appropriators on those portions of the Colorado stream which are in Wyoming.

THE LAW OF APPROPRIATION.

In Volume I of this brief we have considered at length the sovereign rights of each state to exercise supervision and control over the waters within her borders, in such manner as she may elect, and it would seem unnecessary to make another and extended review of the same subject.

Counsel for complainant (pages 94-109) assert that "The universal holding is that priority of appropriation gives priority of right on interstate streams the same as on streams within one state" and cite as authority: *Hoge vs. Eaton*, 135 Fed., 411; *Taylor vs. Hulett*, 15 Ida., 265; *Conant vs. Deep Creek, etc. Co.*, 23 Utah, 627; *Willey vs. Decker*, 11 Wyo., 496; *Farm Inv. Co.*

vs. Carpenter, 9 Wyo., 110; Howell vs. Johnson, 89 Fed., 556; Anderson vs. Bossman, 140 Fed., 14; Morris vs. Bean, 146 Fed., 423; Bean vs. Morris, 159 Fed., 651; *ibid.*, 221 U. S., 485, and Rickey Land & Cattle Co. vs. Miller, 152 Fed., 11; 218 U. S., 258.

It will be unnecessary for us to enter into a discussion of these cases. In none of them do we find an issue between sovereign states, neither are these decisions in so far as they support the contention of complainant, consistent with the decisions of this court. Two of these cases were certified from the Circuit Court of Appeals to this court: Rickey, etc. vs. Miller and Lux, 218 U. S., 258; Bean vs. Morris, 221 U. S., 485.

The decisions in these two cases in this court have been reviewed in Volume I of this brief. Suffice it to say that in each this court takes a position which is undeniably inconsistent with the doctrine of priority of right regardless of state lines, except upon the assumption that both states assented to an arrangement whereby rights might be acquired by appropriators in one state as against appropriators in another. In Bean vs. Morris, particularly, the court assumes that the upper state, Montana, was willing that such rights might be acquired by appropriators in the lower state, Wyoming. Colorado expressly, by her constitution, her legislation and the decisions of her Supreme Court (*Stockman vs. Leddy*, 55 Colo., 24), denies to Wyoming appropriators such a right as against appropriators in Colorado. We believe that the cases cited by counsel for the complainant in support of its contention must yield to the decisions of this court in Bean vs. Morris and Rickey vs. Miller and Lux. Furthermore, in *Kansas vs. Colorado*, 206 U. S., 46, the decision of this court is unquestionably inconsistent with the theory that priority of right, regardless of state lines, is the law. It may be argued that such a question was not directly in issue, but the decision cannot be read as an authority upon any other theory than that each state is sovereign and as such is entitled to the unrestricted diversion and beneficial use of its waters in such manner as it may elect, provided there be an equitable division of benefits, depending upon the circumstances, from an interstate stream.

Furthermore, we find that the Supreme Court of the State of Wyoming has denied to a Colorado user the right of eminent domain for condemnation of a right of way for a ditch heading within the State of Wyoming for the irrigation of lands within the State of Colorado. *Grover Irr. Co. vs. Lovella Ditch Co.*, 21 Wyo., 204, 255-63.

This decision seems to overrule, in part at least, the doctrine announced in the Wyoming and other cases cited by counsel for the complainant.

The cases cited by counsel all involved controversies between individual appropriators in different states and none

of them were between the states in their sovereign capacities. The rights of the citizen in such cases and the limitations of his authority to bind the sovereign, either by his acts or omissions, as well as the rights of the sovereign irrespective of those of the citizen, have been determined by this court:

Georgia vs. Tennessee Copper Co., 206 U. S., 230.

Hudson Water Co. vs. McCarter, 209 U. S., 349, 355.

Kansas vs. Colorado, 185 U. S., 125; 206 U. S., 46.

Each sovereign state stands on an equality with every other state, as announced in *Kansas vs. Colorado*, *supra*:

"One cardinal rule, underlying all the relations of the states to each other, is that of equality of right. Each state stands on the same level with all the rest. It can impose its own legislation on no one of the others, and is bound to yield its own views to none."

Colorado was so admitted to the Union. Section 1 of the Enabling Act provides:

"Which state, when formed, shall be admitted into the Union upon an equal footing with the original states in all respects whatsoever."

If the rights of each state are in all respects equal with those of every other, it follows that any doctrine cannot obtain between the states which denies or does violence to this underlying principle of equality. By neither the common-law doctrine of riparian rights nor the arid region doctrine of appropriation can this equality be maintained in the regulation of irrigation from interstate streams.

The common-law rule is founded upon accident of physical location of lands upon the banks of the streams to the exclusion of all other lands and its application between one state, whose arable lands are non-riparian, and another, whose lands are riparian, must needs deny use of the waters of an interstate stream to the one for the exclusive benefit of the other, and destroy the equal right of the first state to use and enjoy her own natural resources. The same result would follow an interstate application of the doctrine of appropriation for, while the state may, as between her citizens, decree that an absolute inequality shall exist by reason of the fact that only a portion of her lands may be reclaimed by the very limited water supply within her borders, and that he who is first in time shall thereafter be first in exclusive right to the use of the waters of her streams to the extent of his necessities, even though it be to consume all the waters of the stream, nevertheless, the very

inequality and exclusiveness of such a doctrine forbids its application between states with equal sovereign rights, and the rule of inequality which necessity compels between citizens of each state *inter se* cannot apply between states where a contrary rule obtains.

Intra-state Application of Doctrine of Appropriation.

In Part I of this volume, we have given extended consideration to the doctrine of appropriation as applied within, but not between, the arid states of Colorado and Wyoming, while considering the law of inter-watershed diversions. There we discussed the fundamental principles of the doctrine of appropriation as distinguished from the common law rule of riparian rights and the many decisions of this and other courts, including those of Colorado and Wyoming, uniformly declare that the common law rule of riparian rights has been entirely abolished in both Colorado and Wyoming and that each of those states have adopted the arid region doctrine of appropriation for intrastate regulation and control of the streams. A review of the many decisions there cited and quoted is here unnecessary, but a brief reference to some of the rules of application of the doctrine of appropriation may be of some value in construing the testimony introduced respecting the relative priority rights of the appropriators within the two states.

An appropriation is the intent to take the water, accompanied by some open, physical demonstration of the intent, and for some valuable use.

Fort Morgan Land & Canal Co. vs. South Platte Ditch Co., 18 Colo., 1, 4.

The true test of appropriation of water is the successful application thereof to the beneficial use designed.

Thomas vs. Guiraud, 6 Colo., 530.

If the construction of a ditch be prosecuted with reasonable diligence, the water right relates back to the time when the first step was taken.

Sieber vs. Frink, 7 Colo., 148.

Wheeler vs. Northern Colo. Irr. Co., 10 Colo., 582.

Kinney on Irrigation, 2nd Ed., Vol. 2, Chap. 40.

The work of construction must be prosecuted with reasonable diligence from the first initial act and until the ditch has been finally completed. The diligence required is that constancy and steadfastness of purpose and labor which is usual

with men engaged in like enterprises and who desire a speedy completion of their plans. As to what constitutes reasonable diligence is a question of fact and must be determined from all the circumstances surrounding each particular case. The *climate* of the part of the country where the appropriation is attempted is a proper subject, upon the question as to whether the work should be prosecuted during all or for only a portion of the year; also the *topography* of the country where the works have to be constructed and through which they run, as to whether the same be level or rough, and whether the soil is easy to work or whether rock and the like are encountered. So, also, may be considered the difficulty of obtaining labor, tools or material and the extent and magnitude of the works themselves. The term "reasonable diligence" is a relative one and what may be reasonable diligence in one case might be a great lack of diligence or unreasonable delay in another, and the fact as to whether there has been reasonable diligence depends upon the facts of each particular case.

Kinney on Irrigation, 2nd Ed., Vol. 2, Chap. 39,
pages 1266-83 and cases cited.

While the priority of appropriation relates back to the time when the first step was taken, in Colorado (Sieber vs. Frink, 7 Colo., 140), in Wyoming the priority relates back to the time of the filing of the application for permit with the State Engineer.

Wyo. Comp. Stats. 1910, Sec. 739.

Whalon vs. North Platte Canal etc. Co., 11 Wyo.,
313, 344.

The water right of the appropriator is limited both in time and volume by his needs.

Thomas vs. Guiraud, 6 Colo., 530.

White vs. Nuckolls, 49 Colo., 170, 177.

The prior appropriator of water of a certain stream or other source of supply is entitled to the exclusive beneficial use of the water up to the amount embraced in his appropriation, even if it cuts off the right of valid subsequent appropriators and even where this includes all of the water of the stream, and this right continues so long as he applies all of the waters appropriated to some beneficial use or purpose. The water right acquired by a valid, prior appropriation gives the owner thereof an absolute, exclusive property right and he has an absolute right to the use of the water to the full extent of his appropria-

tion and may maintain this right unimpaired by subsequent appropriators of the waters of the stream.

2 Kinney on Irrigation, 2d Ed., Vol. 2, Secs. 780-2, pages 1355-63, and cases cited.

The rights of a prior appropriator being fixed by the extent of his appropriation, others may later appropriate all of the surplus water that is left flowing in the natural stream, provided that no interference with or injury to the rights of the prior appropriator is thereby caused. These later appropriators are termed, under the law, subsequent or junior, and are themselves prior appropriators as regards those whose rights are still subsequent to theirs. Each successive appropriator acquires a right to the surplus water flowing in the stream and each takes all that is required for his needs.

Kinney on Irrigation, 2d Ed., Vol. 2, Sec. 783, pages 1363-6.

If the prior appropriator has no present or immediate need for the full quantity of water which he may divert and use, *he cannot waste it*, but it is his duty to allow such portion as he may have no immediate use for to *remain in the natural stream*.

Burkart vs. Mieberg, 37 Colo., 187, 190;
Nichols vs. Hufford, 21 Wyo., 477, 490;
Kinney on Irrigation, 2d Ed., Vol. 2, Chapter 49,
pages 1541-1624.

Water users are not allowed an excessive quantity of water to compensate and counterbalance their neglect or indolence in the preparation of their lands for the successful and economic application of water.

Nichols vs. Hufford, 21 Wyo., 477, 494;
Farmers' Co-operative Ditch Co. vs. Riverside Irr.
Dist., 15 Idaho, 525.

Under the doctrine of priority of appropriation, the new 1907-8 Wyoming projects take only whatever surplus remained in the stream after all senior and prior appropriations have been supplied to the extent of their needs (but not for waste), and had the Greeley-Poudre project been in Wyoming, all such new enterprises subsequent to August 25, 1902, would have been junior and inferior thereto and could have no claim upon

the river until after the needs of the Greeley-Poudre system had been satisfied.

Respectfully submitted,

FRED FARRAR,
Attorney General of the State of Colorado.

DELPH E. CARPENTER,
Attorney for The Greeley-Poudre Irrigation District.

JULIUS C. GUNTER,
Attorney for The Laramie Poudre Reservoirs and Irrigation
Company.



APPENDIX

LIST OF DEFENDANTS' EXHIBITS.

The complainant's exhibits are designated by the letters of the alphabet. The defendants' exhibits are numbered.

Exhibits:

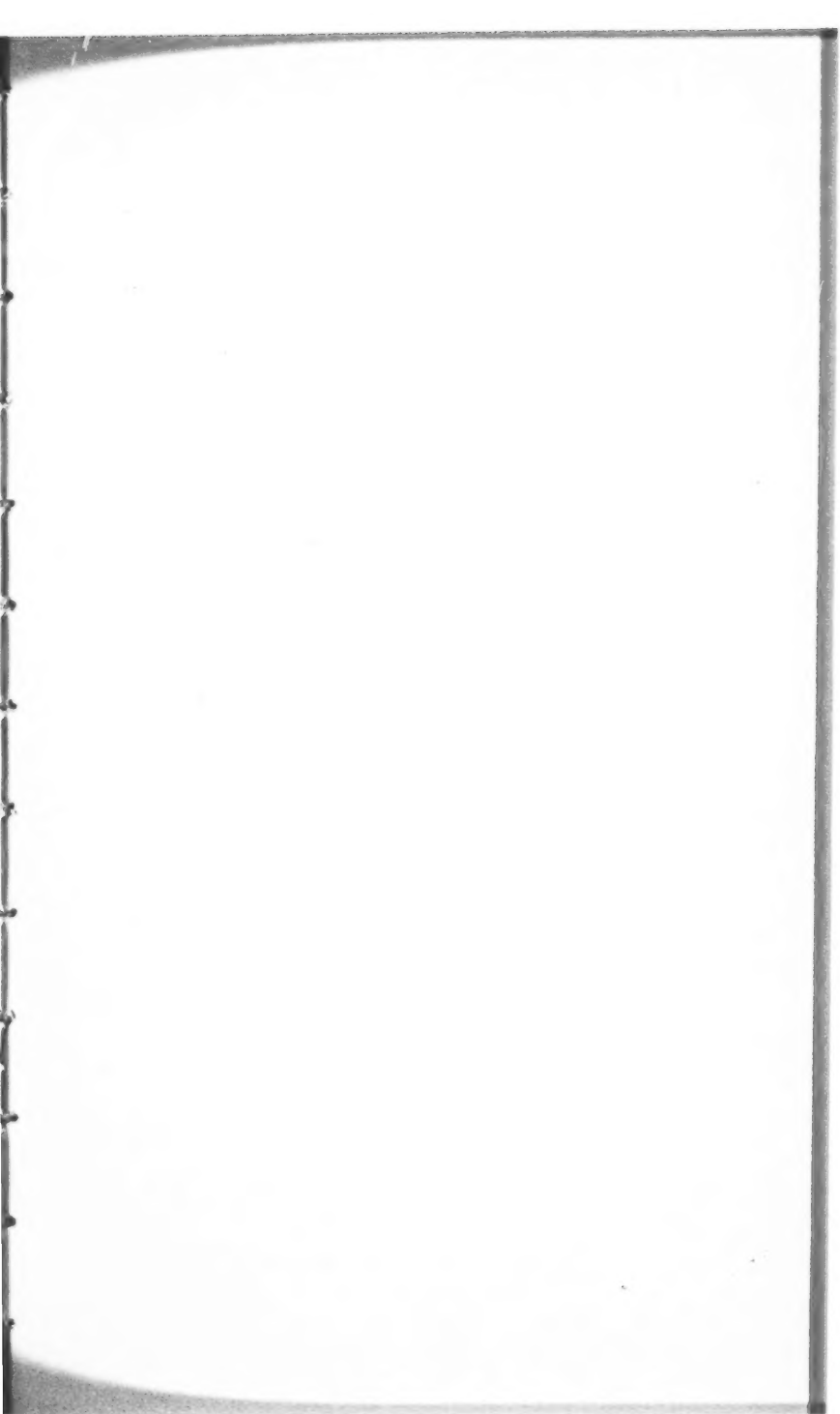
1. Map of the Laramie and Cache la Poudre Rivers, attached to the answer of the corporate defendants.
2. Map showing irrigated lands, Wheatland, Bordeaux and Sybille tracts.
21. Sketch Map, drainage area of Western States.
22. Sketch Map, Jumna Western and Eastern Canals, India.
23. Map, Punjab Project, India.
24. Map, United Provinces of Agra and Oudh, India.
25. Map, Periyar Project, India.
26. Map, Madras Presidency, India.
27. Map, Bouches du Rhone, France.
28. Map, Carpentras Canal, France.
29. Map, Gap Canal, France.
30. Photograph, Aqueduct, Pont du Gard, France.
31. Photograph, Tunnel, Aqueduct Pont de Gard, France.
32. Photograph, Masonry Aqueduct Craponne Canal, France.
33. Photograph, Aqueduct Carpentras Canal, France.
34. Photograph, Aqueduct Carpentras Canal, France.
35. Sketch Map, Cavour Canal, Italy.
36. Sketch Map, Villorosi Canal, Italy.
37. Sketch Map, White Mud River Project, Canada.
38. Sketch Map, Elbow River Project, Canada.
39. Sketch Map, Red Deer Project, Canada.
40. Photograph, Head-works Cavour Canal, Italy.
41. Photograph, Intake, Cavour Canal.
42. Photograph, Naviglio Grande, Italy.
43. Sketch Map, Strawberry Valley Project, U. S. Reclamation Service, Utah.
44. Map, Milk River Project, Montana.
45. Sketch Map, Los Angeles Aqueduct.
46. Sketch Map, drainage areas, Colorado, Montana, Wyoming.
47. Map, Powder River Project, Wyoming.
48. Map, irrigated land, Powder River Project.
49. Three Sketch Maps, Inter-watershed diversions, Wyoming.
50. Sketch Map, Inter-watershed diversion, Wyoming.
51. Copy of map and statement, Laramie-Poudre Tunnel and collection ditches, filed in office State Engineer, Colo., October 6, 1904.
- 52-72. Photographs of early work on Greeley-Poudre System on the Laramie River, 1902-1904.
73. Photograph, Skyline Canal.
74. Copy of map and statement, Link Lake Ditch and feeders, filed in State Engineer's office, Colo., Oct. 15, 1902.
75. Copy of map, East Fork Ditch and Reservoir, filed in State Engineer's office, Colo., May 9, 1904.
- 76-85. Photographs of upper works of Greeley-Poudre System on Laramie River, 1907-1912.
- 86-104. Blue print diagrams, based on Census Reports, decades 1870 to 1910, inclusive, comparing Larimer and Weld counties, Colorado, with Laramie and Albany counties, Wyoming,—size, population, rural population, agricultural production and live stock.
105. Plat showing minimum temperatures, 1893 to 1912, inclusive, Greeley, Colo., and Laramie, Wyo.
- 106-112. Photographs showing crop and soil conditions, Laramie Plains, Wyoming.
113. Tabulation, flow of water from Cache la Poudre River to South Platte River, 1909-1913.

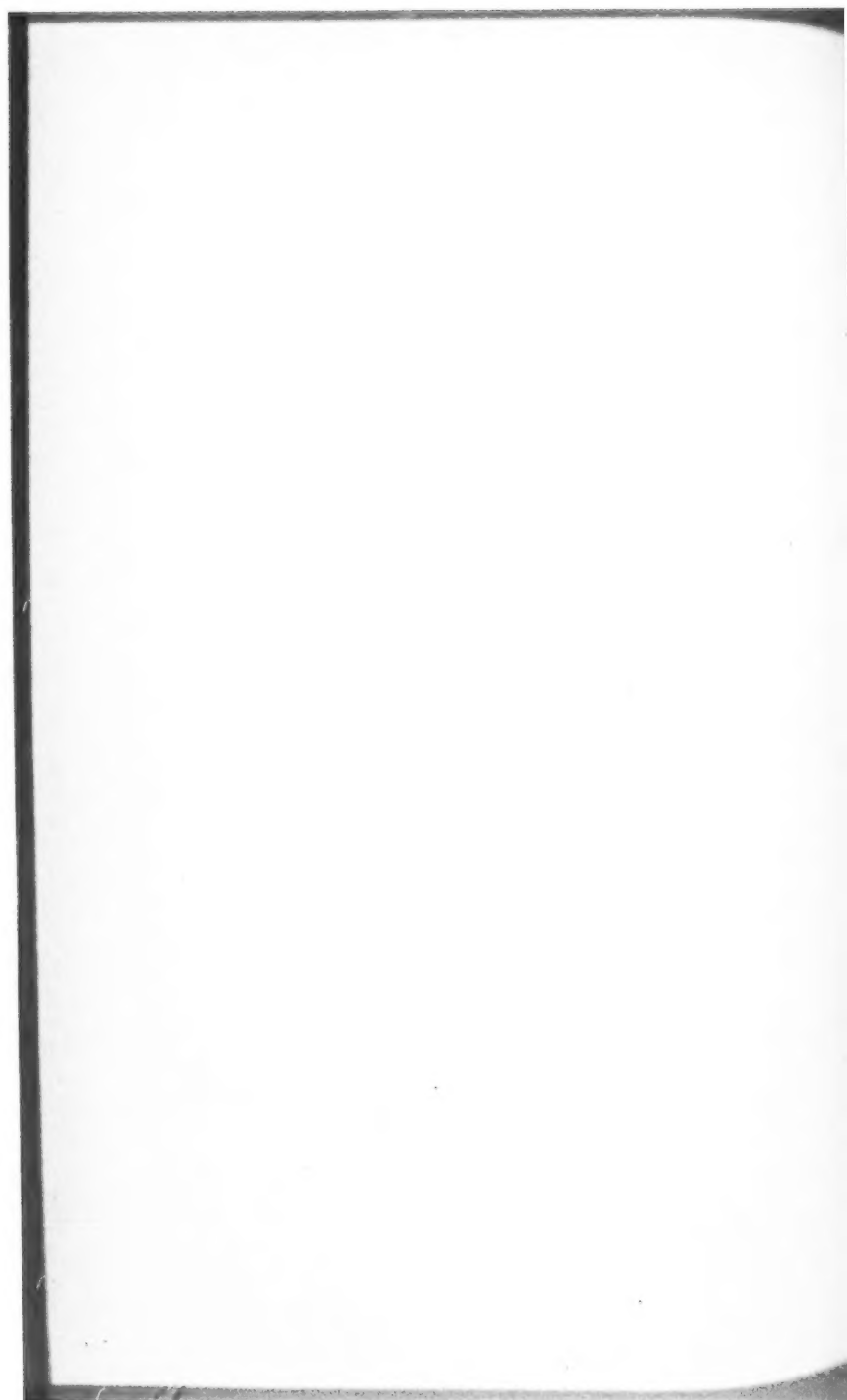
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- 154-155. Soil Maps, U. S. Soil Survey, Laramie Plains, Wyo.
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- 159-178. Certified copies applications and permits for irrigation projects diverting water from the Laramie River in Wyoming, 1908 and subsequent.
179. Copy, Decree adjudicating priorities, Water District No. 48 (Laramie River, Colorado).

NOTE.—Exhibits 3 to 20, inclusive, consist of various data produced on cross-examination by witnesses for the complainant. These were identified but not introduced.

Exhibits 22 to 50, inclusive, show inter-watershed diversions in India, Italy, France, Canada and United States.





In the Supreme Court of the United States

October Term 1917

In Equity

THE STATE OF WYOMING,
COMPLAINANT,

vs.

THE STATE OF COLORADO, The Greeley-Poudre
Irrigation District, and The Laramie-Poudre
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DEFENDANTS.

SUPPLEMENTAL BRIEF ON BEHALF OF DEFENDANTS

Volume 11

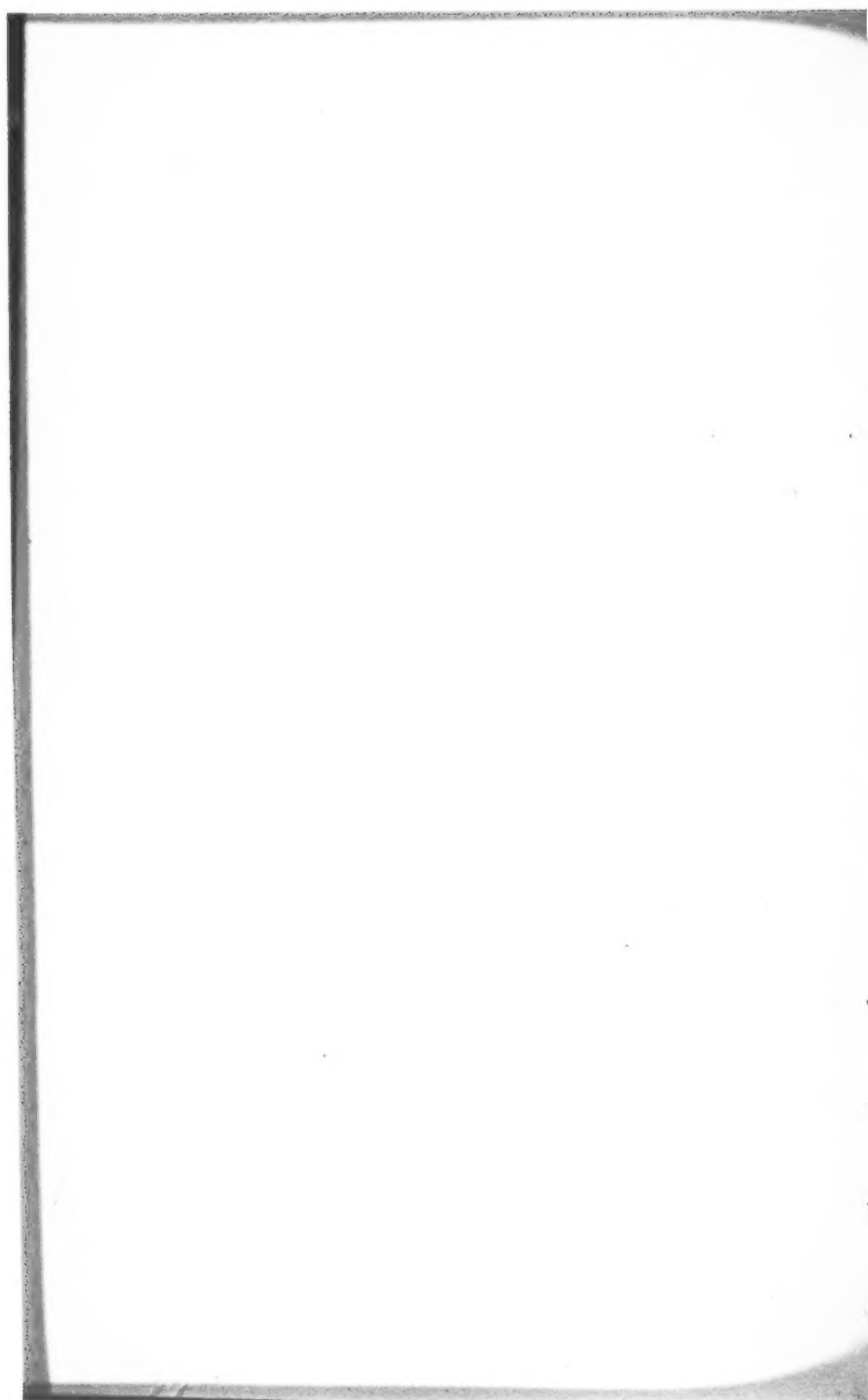
The Facts

PLATT ROGERS,
FRID FARRAR,
Of Counsel.

LESLIE E. HUBBARD,
*Attorney General of the State
of Colorado;*

DWIGHT E. CARPENTER,
*Attorney for The Greeley-Poudre
Irrigation District;*

JULIUS C. GUNTER,
*Attorney for The Laramie-Poudre
Reservoirs & Irrigation Co.*



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DELPH E. CARPENTER,
*Attorney for The Greeley-Poudre
Irrigation District;*

JULIUS C. GUNTER,
*Attorney for The Laramie-Poudre
Reservoirs & Irrigation Co.*

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In the
**Supreme Court of the
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OCTOBER TERM, 1917.

NUMBER 5 - ORIGINAL

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**SUPPLEMENTAL BRIEF ON BEHALF
OF DEFENDANTS**

PART II

THE FACTS

(VOL. I OF THE BRIEF DEVOTED TO THE LAW.)

PRELIMINARY STATEMENT.

The State of Wyoming in this cause seeks to enjoin the State of Colorado and its citizens from diverting water from that branch of the Laramie River, an interstate stream, which rises within the borders of Colorado and flows thence into the State of Wyoming, by means of a tunnel to the Cache la Poudre River (the Poudre River) for the irrigation of certain arid lands included within The Greeley-Poudre Irrigation District. The case was submitted upon the briefs and oral argument of counsel for the respective parties in December, 1916. Thereafter the Court entered an order directing that the case be restored to the docket for re-argument. (See Page 10, Vol. 1 of this brief.) It is pursuant to this order that this brief (in two volumes), which we term the "Supplemental Brief" of the defendants, is submitted.

Volume I is devoted to discussion of the law—Volume II, the facts.

The cause is an original proceeding in this court and the evidence is voluminous. In their original brief the defendants endeavored to collect and classify the evidence pertaining to the more important features of the case in order that the court might with less labor reach its conclusions of fact. There is so much local geography involved that we fully appreciate the difficulty of describing in a manner which will be intelligible to a person unfamiliar with the territory, the various features necessary to an understanding of a case of this nature. We have been served with a copy of the brief submitted pursuant to the order of re-argument, by the plaintiff and with due deference to counsel, we respectfully suggest to the court

that our original brief is almost a complete answer to this supplemental brief of the plaintiff, or, to be more exact, this supplemental brief is an attempt to reply to the original brief of the defendants.

It will of course be immediately recognized that Wyoming, the plaintiff in this case, is not suing as an appropriator of water from the Laramie River, but rather as a sovereign state, she sues in behalf of her citizens, some of whom are appropriators from this stream. In other words, she sues in her sovereign capacity and seeks by an action against the sovereign State of Colorado, to control the State of Colorado and her citizens. Conceding, that she has named two corporations as parties defendant, nevertheless her prayer for relief is based upon a broader ground than the acts of these two corporations alone, that is to say, that she recognizes that the citizens of Colorado can be controlled through an action affecting the sovereign state. The case therefore assumes the status which is defined by the language of this Court in the opinion written by Mr. Justice Brewer in *Kansas vs. Colorado*, 206 U. S., 46-99: "The controversy rises, therefore, above a mere question of local private right and involves a matter of state interest, and must be considered from that standpoint." The plaintiff in its bill of complaint, complains of the diversion of water from the watershed and also complains that prior appropriations in the State of Wyoming will be deprived of water for irrigation if the Colorado diversion be not prohibited.

The defendants proved that the diversion of water from one watershed to another, where necessity required it, was the universal practice where irrigation obtained, and that this practice has been recognized by the law of the

arid states, was followed by the Reclamation Service, and was even in vogue and generally recognized by the law of the State of Wyoming (Page 181 Plaintiffs' Supplemental Brief, also Vol. II, p. 1 to 48 incl. Defendants' Original Brief.)

It is a practice entirely consistent with the theory upon which the doctrine of appropriation is founded. To complain of it in this case and in the same breath insist upon the application of the doctrine of priority as between appropriators of water in the States of Colorado and Wyoming, is, in short, to mix two theories or two legal principles, which are inconsistent and directly opposed one to the other.

In the original brief of the plaintiff, the defendants were at a loss to understand upon what principle the plaintiff relied and after hearing the arguments of counsel we still were unable to distinguish any specific theory of principle upon which the plaintiff based its claim for an injunction against the defendants, prohibiting them from making the diversion of which complaint is made. Since receiving plaintiffs' reply brief, we are still in doubt as to the position taken by Wyoming. On page 189, the concluding statement of the brief contains the following:

“Second. That there is not here any right in Colorado to a so called equitable diversion of the waters for the purpose of the diversion threatened because (a) the threatened diversion interfering as it does with the Wyoming appropriators and depriving them of necessary water *is contrary to every principle of prior appropriation*; (b) the diversion threatened taking the water as it does from the watershed so that it cannot return to the stream *is contrary*

to every principle and doctrine of riparian rights; (c) that there is no rule or principle governing the depletion of streams in invitum excepting the doctrine and principles of prior appropriation and the doctrines and principles of riparian rights and combination of these two, etc."

The defendants, on the other hand, while we answered the bill of complaint to the effect that Colorado as a sovereign state, had the right to the use of the waters rising and flowing within the state, as against the claims of lower states upon the same streams, alleged nevertheless that Colorado and its citizens would not take by means of the diversion complained of, more than an equitable portion of the Laramie River, and that in any event, the diversion sought to be enjoined, was prior in point of time to many large diversions both completed and contemplated, from the same stream in the State of Wyoming. Upon the oral argument, we distinctly stated to the Court, that Colorado's position in this case was that natural barriers prevented Colorado from taking what might be under all facts and circumstances, a reasonable portion of the stream; that we were limited to diversions already existing and not complained of by means of two ditches which had been in operation for many years, of a quantity of water which would average 20,000 acre feet per year, and that by means of the diversion herein sought to be enjoined, we contemplated and additional diversion of 56,000 acre feet, with a possibility that this 56,000 acre feet might be enlarged to 71,000 acre feet; but that the total amount of these diversions, 91,000 acre feet, was the total average amount which Colorado might make from the Laramie River and that it defined the beneficial use which the State of

Colorado might make of this stream which contributed, or rather, in the absence of these diversions, would annually contribute not less than 250,000 acre feet of water to the State of Wyoming, and that in addition to this supply numerous and important tributaries entered the stream below the boundary line between the two states and further augmented the supply which was available to Wyoming. In other words, we insisted upon the right of the State of Colorado to enjoy the beneficial use of 91/250 of the amount of water which rose within its own borders, or 91/470 of the total supply of the Laramie River in both states. Furthermore we contended that the diversion sought to be restrained, was prior in point of time to many large diversions now existing in the State of Wyoming which had recently been in use, and also prior to many proposed diversions for which permits had been issued by the authorities of the State of Wyoming. We therefore contended that regardless of the principle which may properly control a case of this nature, that the State of Wyoming had failed to sustain her burden and that the case should be dismissed.

Since the argument of this cause, the order of court restoring the case to the docket directs that attention be given to the rule which counsel deem should properly be applied to the solution of this controversy, that is, whether the rights asserted are to be tested and determined solely by the application of the general principles of prior appropriation without regard to state boundaries, or whether, on the contrary, the general principles of prior appropriation are subject to be restricted or their operation limited in this case by state lines, and if so, by what principles, under that assumption, the case is

to be controlled. Volume I of the brief is devoted to a discussion of this portion of the order, and as there concluded, *we respectfully state the contention of the defendants to be, that the doctrine of priority of right in the appropriation of water for irrigation or other purposes, is one of intra state law and has no application in controversies between states, but on the other hand that each state as a sovereign, has the right to utilize the waters of its streams to an extent rendered necessary by the conditions under which the use is made, with just regard for the sovereign rights of the lower states into which the streams may flow; and that this right the state is entitled to in the exercise of its sovereign powers subject to be questioned therefore, in this court in a proper proceeding, as to whether it be reasonably exercising those sovereign powers.* In such a proceeding the Court, sits, as it were, as an international, as well as a domestic tribunal, and applies federal law, state law, and international law, as the exigencies of the particular case may demand: *Kansas vs. Colorado*, 185 U. S. 125-147.

In Volume I of this brief we have exhaustively discussed the law of state jurisdiction of waters. We there observed that the general doctrine of appropriation like the doctrine of riparian rights, is at best but a rule of usufructuary private property law *intra state* in its application and varying in its interpretation with the laws of the several states in no two of which is the application of the general principles the same. We further observed that the general principles of prior appropriation are such that they cannot apply without regard to state boundaries and are inapplicable to controversies between states; that the doctrine would violate the sovereign rights of states standing upon an equality one with

another; that its application would be to impose an exclusive perpetual servitude upon the natural resources and domain of one state, without consent, for the sole benefit of another state and its citizens and would be equivalent to the taking of property of one sovereignty without compensation or consent, for the exclusive and perpetual benefit of another sovereignty and its citizens; that the general doctrine would be incapable of administration if sought to be applied without regard to state lines and inequitable in its operation; that many of the rivers of the arid region rise in the mountains but disappear as they flow out across the plains and that the enforcement of the doctrine to such streams would be to consume and waste the greater portion of the stream in order to satisfy the claims of the users upon the lower reaches of the watercourse; that on rivers, such as the Colorado, it would be impossible to administer the doctrine and at the same time protect the rights of all the appropriators upon the stream and all its tributaries; that it would be impracticable if not impossible to determine and adjudicate the relative rights of appropriators upon streams irrespective of state lines; that the rights of the appropriator are limited to his necessities, which vary from day to day and year to year and cannot be definitely determined save to fix the maximum amount of his diversion and that such rights are subject to the laws, rules and regulations varying according to the necessities of each particular community where irrigation obtains and that in no two of the communities, districts or states are the conditions and necessities or the laws or rules thereof the same; that any attempt to administer the distribution of waters of interstate streams under the doctrine of appropriation would involve insurmountable conflict

of laws, rules and regulations and such a variance of conditions as to make its enforcement impracticable; that the conflict of jurisdiction and administration of laws is well illustrated by the waste of water which obtains in Wyoming but is prohibited in Colorado; that administration in such a manner as to obtain the highest use of all the waters of the stream, by exchange and other systems necessary thereto, would be practically impossible; and that the many difficulties and obstacles which confront application of the general principles of appropriation to interstate streams, demand that some other principle must govern controversies between states.

Of the many cases which we discussed we particularly desire consideration of *Stockman vs. Leddy*, 55 Colo., 24, wherein the position of the State of Colorado is judicially declared by the Supreme Court of the State, and of the two principal cases decided by this Court, *Missouri vs. Illinois*, 200 U. S., 496, and *Kansas vs. Colorado*, 206 U. S. 46, wherein the rights of one sovereign state in its relation to another state over the use of rivers common to the two, were determined. We also desire to refer to the case of *Rickey Land & Cattle Co. vs. Miller & Lux*, 218 U. S. 285, and *Bean vs. Morris*, 221 U. S. 485, wherein the rights of the states irrespective of the citizens of either are pointed out, especially in cases where, as here, extra-territorial servitudes are denied by both litigant states. We believe that the law announced in *Missouri vs. Illinois* and *Kansas vs. Colorado* should control the decision of this case, that is to say, that each state has a sovereign right to utilize the waters of its streams under such system of law as it may choose and according to its local conditions and necessities either present or future, and that in each controversy between states

all the facts and circumstances are to be so construed as to recognize and preserve the equal sovereign rights of both states and at the same time establish justice between them.

Without further reference to Volume I or further discussion of the law we shall pass to the consideration of the facts here involved.

THAT THE FACTS DISCLOSED BY THE EVIDENCE IN THIS CASE PROVE THAT NO DAMAGE WHATSOEVER WILL RESULT TO THE STATE OF WYOMING OR ITS CITIZENS BY REASON OF THE DIVERSION COMPLAINED OF AND THAT THERE WILL REMAIN AN ABUNDANCE OF WATER FOR THE IRRIGATION OF WYOMING LANDS NOW IRRIGATED AND A SURPLUS FOR ADDITIONAL DEVELOPMENT; THAT THE APPROPRIATIONS MADE BY THE GREELEY-POUDRE SYSTEM HEREIN SOUGHT TO BE ENJOINED ARE PRIOR IN TIME AND RIGHT TO MANY VERY LARGE ENTERPRISES, BOTH STARTED AND IN CONTEMPLATION, WITHIN THE STATE OF WYOMING AND DIVERTING WATERS FROM THE SAME STREAM; THAT COLORADO IS, IN ANY EVENT, TAKING LESS THAN A REASONABLE PROPORTION OF THE WATERS OF THAT BRANCH OF THE LARAMIE RIVER WHICH RISES AND FLOWS WITHIN HER BORDERS AND THAT THE EQUITIES ARE ENTIRELY IN FAVOR OF THE DEFENDANTS, BOTH UPON THE FACTS AND THE PRINCIPLES OF LAW INVOLVED, AND THAT THE CASE SHOULD BE DISMISSED.

We believe that under any principle of law which might govern a controversy of this sort, Colorado was entitled to be dismissed for the reason that Wyoming had not shown that she would be damaged by the diversion sought to be restrained, but rather that the evidence proved that even after the total amount capable of being diverted had been taken from the stream for irrigation in Colorado, there was more than a sufficient amount left for the irrigation of the lands now under irrigation in Wyoming and even an abundance of water for future development and though it were contended that it

was questionable as to whether or not sufficient water would remain for the future use of Wyoming, that nevertheless the benefit to the country from the use of this water upon the lands in the Poudre Valley proposed to be irrigated by it, would be many times what it otherwise would be if the diversion were enjoined and the water used for the irrigation of the Laramie plains. We sought to present this case in its broadest possible scope believing that the Court would desire, not the mere academic questions of priority of right or sovereign ownership, but rather that it would wish to know all the circumstances and the probable results which would follow the decision of the case. To that end we reviewed the evidence pertaining to the more important questions presented, and, in that portion reviewed in Volume I of the brief, summed up our conclusions of fact in this manner:

“That the total flow of the Laramie River and its tributaries in both Colorado and Wyoming is something in excess of 470,000 acre feet per annum, and of that amount 431,200 acre feet is the normal average flow of the river available above and including the Wheatland tract.

Of this total flow, Colorado furnishes at least 250,000 acre feet per annum, the evidence varying from 220,000 acre feet according to one Wyoming witness, to 250,000, 300,000 and 320,000 acre feet according to the Colorado witnesses.

Of the 250,000 acre feet furnished by the State of Colorado, we are now diverting for irrigation 20,000 acre feet per annum, and seek to divert 56,000 acre feet in addition, with a probability that at some time this 56,000 acre feet may be enlarged to 71,000 acre feet. Assuming this contingency, Colorado seeks

to divert 91/250 of its own water, and this amount marks the limit to which Colorado can go in the diversion of water from the Laramie River. The rest of the water must for all time remain in the stream for the benefit of Wyoming if she needs it.

That irrigation methods and irrigation systems in Wyoming have been and still are primitive; that necessity has never required the officers of that state to make any definite attempt at the diversion of the water of the stream according to the respective rights of the appropriators; that wasteful methods have prevailed and still do prevail over a large portion of the Laramie plains area, and that the amount of water used has been far in excess of the amount actually needed, and that Wyoming has most excellent natural storage facilities which have been, to a certain extent, utilized at a remarkably low cost.

That the only expert testifying for the State of Wyoming says that the duty of water on the Laramie plains area is one acre foot per acre.

That the total amount of land under irrigation from the Laramie River and its tributaries in Wyoming is 108,073 acres, including 29,074 acres in the Wheatland tracts and 78,999 acres on the Laramie plains.

That while the Wheatland area is a relatively fair agricultural district, it has an ample water supply for many times the amount of land now under irrigation, and has, in fact, diverted more water than the law of the State of Wyoming permitted or necessity required; that the Laramie plains is an area where climatic conditions are so adverse that its agricultural development has been and will be limited to the production of hay and a few other hardy crops, capable of resisting the severity of the climate.

That the lands of the Greeley-Poudre District are dependent for reclamation upon water from the Laramie River, which, when supplied, will bring about a development within the district equal to the development in the adjacent lands in the Poudre Valley; that the development already reached in the Poudre Valley is one wherein the highest agricultural production obtains, with a possibility of still further development in the future, supporting many times the number of people per unit of area as can be or have been supported by the Laramie plains; that the same quantity of water, applied for irrigation upon the Poudre Valley will produce from five to ten times the amount that could be produced by the application of the same amount of water upon the Laramie plains.

That even, for the sake of argument, assuming a shortage of water in the Wyoming territory effected because of the diversion to the Greeley-Poudre District, nevertheless a far greater benefit to mankind will result from the application of that water in the Poudre Valley rather than upon the Laramie plains.

That after the diversions have been made by Colorado, there will remain available for irrigation in the State of Wyoming in the watershed of the Laramie River, far more than sufficient for its present needs, and even a surplus amount for vast increase in the amount of land under irrigation.

That the prior diversions from the stream, under the laws of the respective states, are in Colorado, and

That the diversion by Colorado from the watershed is consistent with the highest economic use permitted the world over where irrigation is a necessity.

Therefore, the defendants contend that their diversion from the Laramie River into the Poudre by means of the Greeley-Poudre system, will in nowise injure the State of Wyoming, and that the equities between the two states are such that this use is in nowise an unreasonable exercise of the rights of the State of Colorado as a sovereignty."

Defendants' Brief, Vol. 1, pp. 123-125.

We still contend that under the facts as disclosed by the testimony, the suit should be dismissed; and that so far as the merits of this particular case are concerned, Wyoming has failed to make a case upon upon any theory which she might advance.

The evidence relating to the more important features of the case was carefully collated and reviewed in our former brief. The supplemental brief of the plaintiff is largely an answer, to which we will reply by a more condensed review of the evidence with reference to the conclusions which the plaintiff seeks to draw by its supplemental brief.

Questions propounded by certain members of the Court at the argument of this case in December, 1916, suggested that the terms "equitable" or "reasonable amount" did not fix any rule by which the Court could determine this controversy. May we suggest that this principle does not demand any fixed rule, on the contrary, it leaves each case open for determination upon its own merits. Possibly at the moment the question was asked it was not in mind that this is an original proceeding wherein the Court must determine the facts as well as the law. Colorado contended that she is not exceeding her sovereign rights and will not divert more than a reasonable amount of the waters of the Laramie River. No fixed rule could be laid down which will determine

the "reasonable amount" in another case. It is, however, nothing but a question of fact to be determined as any other question of fact.

In the determination of this question of the reasonable exercise of sovereign powers by a state, we believe it pertinent to consider as factors: The development and future possibilities of development in the respective areas affected, and to some degree the relative priorities of the diversions involved in the different states; the value not only to the persons or localities more directly involved in the controversy but more particularly the value or benefit to the state and its citizens and to all mankind in the application of water to one district rather than to another or, to put it bluntly, to weigh and compare the returns and to consider the highest economic value to which the water can be put; the water supply—this being of course the fundamental question under any principle—and the amount which will remain to the lower state after the diversion complained of has been made; waste or economy of use in the affected areas; the amount of land to be irrigated and what, if any, surplus of water remains; the possibilities of conserving flood waters by available storage; the damage or lack of damage which will be sustained by the respective persons or localities affected, and last, but not least, the effect of a decision upon future controversies wherein the state of facts may radically differ or wherein future development or necessities may prove matters now unknown in the science of irrigation.

It has been said that irrigation does not lend itself to academic treatment. This is true not only from the standpoint of the engineer, but also of the lawyer. The law of irrigation is not yet exact, and probably never will be. It is still in its formative

state. It varies with each state and locality according to prevailing conditions and necessities and will continue to vary with new and future necessities, varying with each state and community. Irrigation statutes have frequently been enacted designed to bring about beneficial results where the conditions contemplated coincide with those in the mind of the legislature, or in other words, where the condition is ideal. But actual conditions in irrigation rarely are ideal, as there are so many influences which affect them one way or another and with such varying results that the application of a statute based upon an ideal condition is difficult indeed, and while the law, like irrigation engineering, is a progressive science applied to varying natural conditions and is gradually developed in the full course of events, there is bound to be and always will be an inability to apply fixed rules for academic treatment. To a great degree each case must be determined upon its own merits.

In our first brief (both volumes) we devoted much time to a review of the evidence, believing that the evidence justified the conclusions of fact which we reached and which, in part, we have reiterated here.

Under the head of "Water Supply" we reviewed the evidence to the effect that the Poudre River did not furnish a sufficient supply of water for the irrigation of lands in the Greeley-Poudre Irrigation District, although that system contemplated the construction of at least one enormous reservoir in the channel of the Poudre River and other smaller reservoirs at available sites; that it was necessary, in order to irrigate these lands, to obtain a supply from some other watershed and that the Laramie River was the only available source of supply of this character.

We contended that the evidence proved that the normal supply of the Laramie River at the State line, including the appropriations now made, is, according to the Wyoming hydrographer, the only witness of the plaintiff upon the subject, 220,000 acre feet, and according to the three Colorado witnesses, is as follows: John E. Field, state engineer, 250,000 acre feet; Charles R. Hedke, 300,000 acre feet; Professor L. G. Carpenter, 320,000 acre feet; and that the total amount of water, including the amount diverted above, in the Laramie River and its tributaries, available for irrigation of lands in Wyoming, including the lands in the Wheatland tract, is more than 431,200 acre feet per annum. If the inflow below the Wheatland diversion be added the total is in excess of 470,000 acre feet per annum. The various investigations and hydrographic data upon which these conclusions were based were carefully reviewed, including this, that the evidence introduced by Wyoming herself showed that in the year 1912, there was stored in four reservoirs alone, that is, Lake James, Wheatland No. 2, Wheatland No. 3 and Lake Hattie, a total of 156,000 acre feet in excess of the use and evaporation from those reservoirs in that year. (3488)

We reviewed the evidence showing the amount of land irrigated in the Poudre valley, approximately 300,000 acres, and in Wyoming 108,073 acres, of which 29,074 acres were in the Wheatland area and 78,999 acres in the Laramie Plains; that the duty of water in the Poudre valley was approximately one acre foot per acre, measured at the headgate of the lateral leading from the canals to the land; that the amount of water heretofore applied on the Wyoming lands was in excess of this amount, although the Wyoming expert, R. I. Meeker, placed

the duty of water on the Laramie Plains at one acre foot per acre, whereas his own measurements showed distributions inconsistent with this statement; that the amount of water applied in the year 1912, for illustration, to the Wheatland lands was 2.6 to 2.7 acre feet per acre, measured at the head of the laterals, and that the amount actually distributed to that tract alone in that year was by 15,000 acre feet in excess of the maximum amount permitted by the laws of Wyoming for the most extreme cases in that State. We reviewed the evidence showing that in the Poudre valley the highest systematized method of administration for the distribution of water and the elimination of waste, had developed; that on the Laramie Plains there was practically no administration whatsoever; that ditches were without adequate means of diversion, that large quantities of water were there annually wasted (1288-9, 2741-3) and the officers of the State as a rule had not been called upon to perform any duties whatsoever concerning the distribution of water according to the priorities; that during the year 1912, concerning which complaint was made by certain witnesses under small ditches, that they were short of water, two large reservoirs on the Laramie Plains, Lake Hattie and Lake James, had continued to store water during the whole irrigation season, and it was proved by the water commissioner that none of these small ditches were so constructed that they could divert water (1276-89). That a comparison, or rather a contrast of the Laramie Plains and the Poudre valley showed that the production available from a like amount of water on the same unit of land was from five to ten times more in the Poudre valley than on the Laramie Plains; that The Greeley-Poudre system was prior in point of time to several large enterprises now constructed in Wyoming, notably the

Lake James system, Lake Hattie system, Sodergreen Highline and the extension of the Wheatland system to the Bordeaux tract and to the Sybille tract (see Part II, Vol. II defendants' orig. brief, and table on p. 228 thereof), of which Lake Hattie has a capacity of 110,500 acre feet, 68,500 acre feet being active or available capacity, and Lake James has a capacity of 41,100 acre feet. That in addition to these, the extension of the Wheatland system called for the irrigation of 10,000 acres in the Bordeaux and 30,000 acres in the Sybille tract; and that other later junior systems were authorized. We also reviewed the evidence showing conclusively that inter-watershed diversions were the rule in all irrigation countries where necessity demanded and economic conditions permitted it. (See Part I, Vol. II, defts. orig. brief.)

The supplemental brief of plaintiff seeks to answer our review of the facts, and in reply to this supplemental brief we shall endeavor to recondense the evidence outlined in our original brief, classifying it in such manner that the Court will be able to consider the various phases of the case separately. We shall follow the order of discussion adopted in plaintiffs' supplemental brief.

I. AMOUNT OF WATER DIVERTED BY COLORADO.

Under the heading, "Amount of Water to be Taken by Colorado," the plaintiff contends that the estimate of the Colorado engineers of the amount of water now diverted by Colorado from the Laramie River is low by at least 6,000 acre feet, and also that the constantly increasing pressure for water in the Poudre valley will certainly cause added efforts to divert water from the Laramie both earlier and later in the season and with less loss, so that even in the

average year the amount diverted by the Greeley-Poudre system would be much more than 75 per cent of the flow of the various streams intercepted by the system (that being the estimate of our engineers), and that the amount diverted would probably be 95,000 acre feet or more, rather than the 91,000 estimated. That in years of low flow, these diversions may amount to 100 per cent of the stream flow at the diversion works.

In order that the Court may understand the situation, let us recall again the geography of the Colorado diversion. The branch or tributary of the Laramie River here involved rises in Colorado in a high mountainous area, flows northerly for a distance of approximately 27 miles to the Colorado-Wyoming line, this length of stream being confined to a high mountain valley averaging from one-half to one mile in width. There are tributary streams entering the river from the east and from the west, more particularly from the west. The Poudre River rises in the same general locality, in fact the small tributary sources of the two streams are interlaced, the real head of the Poudre being Chambers Lake, from which the Poudre runs for a few miles almost parallel with the Laramie, being separated from it by one range of mountains, and then turns almost at right angles and flows easterly.

High on the head waters of both streams a ditch has been constructed and in operation since 1891, known as the Skyline ditch, diverting from some of the headwaters of the Laramie into Chambers Lake, or, in other words, into the Poudre. The testimony shows that this ditch, judging from actual experience, is to be expected to divert about 16,000 acre feet per annum from the Laramie watershed. Another diversion existing for a number of years, called

the Deadman, sometimes the Divide ditch, and at other times the Wilson Supply ditch, diverts water from another tributary of the Laramie River, by a circuitous route, into the Poudre watershed and has and is expected to divert about 4,000 acre feet per annum, making a total of 20,000 acre feet per annum now diverted by Colorado, but by persons not directly complained of in this proceeding. However, in order that we might be justly charged with the benefits which we are endeavoring to derive from this stream, we have in our consideration of this case, charged the State of Colorado with 20,000 acre feet on account of these two diversions.

The plaintiff contends that this is too low by at least 6,000 acre feet, basing this contention upon evidence introduced by the defendants showing the flow of the Poudre River with the accretions through the Skyline and Divide ditches (Ex. 124), and contends that this table shows that in the year 1901, when the normal flow of the Poudre River was 114 per cent of normal, the Skyline alone diverted from the Laramie, 23,801 acre feet; in 1902, when the supply in the Poudre was 51 per cent of normal, the Skyline diverted 22,124 acre feet; in 1903, when the Poudre supply was 116 per cent of normal, the Skyline diverted 26,114 acre feet; in 1904, when the supply of the Poudre was 106 per cent of normal, the Skyline diverted 23,434 acre feet. It was also argued from the record of other isolated years that it appears that the percentage of diversion through the Skyline ditch, assuming, as had been contended by defendants, that the years of high water and low water naturally concur in a large degree on both the Laramie and Poudre rivers, that the Skyline will divert a greater percentage of the supply of the Laramie River in years of low flow than it will in years of high flow.

May we state that the conclusions based upon this table (defendants' Exhibit 124) by plaintiff, appear to us to have been based upon a rather narrow review of the table. It will be noticed, however, commencing with the year 1905, the amount diverted by the Skyline ditch was materially less than the amount diverted in the preceding years, and at least a portion of plaintiff's conclusion is based upon the higher records. The manifest difference in these amounts, which is illustrated by the difference between the years 1904 and 1905, 1904 showing 23,434, and 1905 showing only 13,291 acre feet, diverted by the Skyline, is explained in this, that in the year 1905 Professor Carpenter, then being the state engineer of Colorado, caused this Skyline canal to be re-rated. This re-rating disclosed that the earlier rating had been excessive, the result was that the amount of water which the owners of the Skyline canal were permitted to divert from the Poudre because of the accretion to the stream through the Skyline canal was greatly reduced. Up to the year 1904, the company had been receiving from the Poudre more than it was justly entitled to receive. This was corrected and the table clearly shows a material reduction in the amount of the discharge of the Skyline ditch in the years subsequent to 1904 over what had been credited to that company in prior years. (1431 and 2209.)

There is, however, no nice question of fact involved here. It is conceded that The Greeley-Poudre Irrigation District seeks to obtain as much water as it is possible for it to divert from the Laramie River, inasmuch as all the water available from that source is necessary for the irrigation of the land in the district. This project, costing millions of dollars, was not undertaken because of any whim, but because of absolute necessity, and we, of course, admit the de-

sire and intention upon the part of the Greeley-Poudre District to take as much of this water as circumstances will permit. We do, however, contend that it is impossible to divert more than 74 per cent of the water of the Laramie River flowing at the point of diversion. The reason that we do not contend for 100 per cent of this amount is because it is impossible to obtain it (3424). The collection ditches diverting water from the tributary streams of the Laramie River are situated on the slopes of mountains of very high altitude; they are in every way comparable to the Skyline ditch and the history of that ditch gives us an indication of what will occur on these diversion ditches of the Greeley-Poudre Irrigation System. The Skyline canal is located at an altitude of from 9,300 to 9,500 feet above sea level, along a steep mountain side. (2206) It is impossible to keep the ditch in operation during the winter, and every spring it is necessary to dig a trench through the snow within it. This work is commenced at the lower end and proceeds upward. The ditch is usually open between May 10 and July 1. (2210, 2211) It is therefore apparent that the water, in addition to the heavy amount of seepage from a ditch of this character located as it is, which is not intercepted during the winter months, passes down the stream. The Greeley-Poudre diversion ditches being, as stated, very similar to this, will have a similar history. We therefore believe that the engineers for defendants have not under-estimated the amount of water which has been or will be diverted from the Laramie River for use in Colorado; but assuming for the sake of argument that this contention on the part of Wyoming is correct, nevertheless, as we will show later, it will not make any material difference in the result, because these diversions are made upon the upper

reaches of the stream at a point where the Laramie itself and also the tributaries intercepted are very small streams.

II. AREA OF LAND RECLAIMED.

The Court has requested, in the order for re-argument, that the facts showing the extent of the uses of water in both States when the work complained of was begun and when this suit was commenced, be stated.

Inasmuch as the evidence introduced by the plaintiff of the amount of land irrigated and the diversions of water by the various ditches was very general, it is difficult to draw any lines of demarcation as to the extent of the use of water before and after any specific date. The evidence showed the nature and character of the Colorado project, of which complaint is made. The same is true of the lands in the Wheatland tracts, that is, the original Wheatland tract; and also the Sybille and Bordeaux tracts, of a later consideration. On the Laramie Plains there had been such a commingling of projects involving older diversions with the newer systems that we are unable to state with anything even approaching exactness what (for illustration the system of the Laramie Water Company which we generally term the Lake Hattie system) each consists of or includes, nor can we tell what is included within the project which we term the Lake James system. In other words, if these are definite, well defined projects having definite areas or boundaries, the evidence introduced by Wyoming fails to disclose it, and being unacquainted with the history of these developments, these defendants cannot attempt an exact definition of these systems.

We did, however, make a careful survey of a very material portion of the Laramie Plains, mapping or platting this survey in such way that not only were the irrigated lands shown, but also the crops to which these lands were devoted. This survey was made by plane table and a reduced photographic copy of the plats is introduced in evidence. (Exhibit No. 114).

The defendants claim August 25, 1902 as the date of priority of the diversion of water from the Laramie River by means of the Greeley-Poudre tunnel and the collection ditches designed in connection with it. (See defts.' orig. brief, Vol. II, pp. 133-188.) This suit was commenced on May 29, 1911. These, then, are the dates concerning which the Court desires a comparative statement of the development.

The Laramie River valley in Colorado has been frequently described by the witnesses and may be defined as a narrow mountain valley. It was, in part, surveyed in April, 1910, by an engineer named J. A. Whiting, who was introduced as a witness by the plaintiff. This witness described the valley as being from three-quarters to a mile in width, with the irrigated portion consisting of strips of meadow down through this valley on each side of the stream, the irrigated land extending generally 500 to 600 feet from the stream (1267-1271). Whiting made a survey of part of the irrigated land in this valley and found 1,856.64 acres, of which 567.6 acres was land largely covered by willows (1275). A complete survey was also made by Engineer Wortham (3454), employed by The Greeley-Poudre Irrigation District, who made a plat of the irrigated lands along the Laramie river and its tributaries in Colorado, and found a total of 4,250 acres (Exhibit 130).

These lands lying adjacent to the stream, devoted to the production of native hay, are the only lands capable of being irrigated in Colorado within the watershed of the Laramie River. The testimony shows that by reason of their location and the character of the soil, together with the slope, the use of water on these lands is not largely consumptive, but there is a very quick return from irrigation back into the stream; much more than would be true of lands of different character and location (3458). Similar conditions pertain on the upper reaches of the Little Laramie in Wyoming, the region being called the Centennial Valley (1110). This being recognized by both parties to the suit, no charge was made either against Wyoming or Colorado for the irrigation of these areas just described, and the measurements of water had been made as though no such irrigation had been practiced. However, it is pertinent to call attention of the Court to the fact that this insignificant area is all that Colorado can irrigate in the watershed of the Laramie River. Now in order to question the accuracy of the plane table survey made by the defendants of lands on the Laramie Plains in Wyoming, counsel for the plaintiff uses the variance in the amount of land disclosed by the two surveyors mentioned of these Colorado lands, as an argument to the effect that whereas the Wyoming engineer was unfamiliar with the lands irrigated, he failed to find 2,404 acres which the Colorado engineer showed to be irrigated, and that a similar lack of knowledge explained the wide variance between the amounts of irrigated land found by the Colorado survey over the amount claimed to be irrigated by the State of Wyoming in the Laramie Plains.

The argument is not very convincing. In the first place Whiting, the Wyoming engineer who sur-

vayed the Colorado lands, testified that he went only to a point three miles above Glendevey (1270). He also testifies that this same point, Glendevey, is about three miles below the tunnel of the Greeley-Poudre system. In this he was in error. Glendevey is about nine miles below the tunnel (see Exhibits 1 and 130), and it is quite obvious that Mr. Whiting did not make a survey of all the irrigated lands in Colorado. That is not material here, except to show that counsels' argument is not well taken. The incomplete abstract of the record (1266-75) doubtless leads to some confusion. The survey by Engineer Whiting was limited to a certain specific list of ditches, which are set forth on page 1269 of the original record (Vol. III, p. 291), and on page 1275 of the record he says: "I took these certain ditches I mentioned." In other words, Mr. Whiting merely measured the acreage irrigated by the specific ditches set forth on page 1269 and made no attempt to ascertain the total irrigated acreage in the valley.

All of these Colorado lands, that is 4,250 acres, were under irrigation by means of various ditches diverting water from the Laramie River and its Colorado tributaries prior to the initiation of work on the Greeley-Poudre system. So, also, were the diversions hereafter mentioned, made by means of the Skyline canal, which was constructed in 1891-1893 (2206), and the Divide canal or Wilson Supply, constructed somewhat later (1398). Since the work of construction of the Greeley-Poudre system was commenced, there has been no further diversion from the Laramie River within the State of Colorado, although one or two projects subsequently initiated by various persons in Wyoming contemplate not only the construction of a reservoir at Glendevey, but also a reservoir at the State line, neither of which

have been constructed, although a permit was issued for a reservoir at the State line, so far as it lay within the territorial limits of Wyoming (Exhibit 177).

Passing to the consideration of the amount of land irrigated in the Laramie Plains in Wyoming, counsel for plaintiff endeavor to classify it in this manner: (a) Area irrigated under ditches prior to the Colorado diversion (The Greeley-Poudre Irrigation District); (b) Area not yet irrigated but for which rights are claimed under ditches of conceded priority, and (c) areas under ditches of disputed priority. It is of interest, before reviewing this discussion in plaintiff's brief, to note that it is contended that the total amount of land irrigated from the Laramie River in Wyoming is 97,855 acres, from the Little Laramie River 48,344 acres, and from Sand Creek 5,989 acres, or a total of 152,097 acres. (p. 21)

No definite survey or measurement of these lands was made in behalf of Wyoming except as to some isolated areas which will be considered later. However, the defendants did make a survey of most of the irrigated lands—unfortunately time did not permit the completion of this work—and in every instance where lands were testified to be under irrigation by Wyoming witnesses and of which the defendants had made no survey, we accepted without question the Wyoming testimony, and adding these amounts to the amounts shown by the survey, we reached the conclusion that the total amount of land under irrigation in Wyoming is 108,073.75 acres. Counsel for plaintiff in their supplemental brief, giving due credit for good faith in this survey, ingeniously contend that the surveyors not being as familiar with the land, were not as capable of arriving at the true amount under irrigation as are per-

sons familiar with the land, giving as an illustration the failure of their engineer, Mr. Whiting, to find all of the irrigated lands in the Laramie valley in Colorado as before described. But the testimony of Mr. Whiting shows the weakness of this testimony (see pp. 1269, 1275 original record, but not in abstract; also pp. 26-7 *infra*). In the absence of a definite survey, the plaintiff introduced numerous witnesses who testified, not from surveys, but from what purported to be a general knowledge of the irrigated lands under the various ditches, and these statements, although mere rough estimates, are set out against the actual measurements made by the defendants' survey.

Let us review very briefly a portion of this Wyoming testimony in order to see how indefinite it is as evidence contradictory to a survey. On page 13 of the supplemental brief it is stated that the amount of land under the Riverside Ditch No. 1, ditch, Riverside Ditch No. 2, and the Caldwell & Gardner ditch is 13,500 acres. This statement is based upon the testimony of a witness named Winkler, a ranchman who had lived in that vicinity for a number of years. He testifies to being acquainted with the Riverside ranch, irrigated by means of these ditches and says the land irrigated by these four ditches was about 13,500 acres (279). And the testimony of a witness Benson, a ranchman, who had also resided in the vicinity for a number of years, and who at one time had been foreman of the Riverside ranch, to the effect that 13,500 acres were irrigated in the Riverside ranch. Neither of these witnesses so much as mention a survey of this land. The testimony was a mere general statement and we do not believe was intended to be a statement of more than a general estimate on behalf of the witness.

It is next contended that the Murphy ditch irrigates about 80 acres. This statement is based upon the testimony of the witness Sodergreen, a ranchman, who also testifies in the same general way, and he also testifies in the same general manner concerning the Last Chance, Fisher and Sodergreen ditches. As to them, he says he irrigated about 800 acres. Concerning the Mansfield ditch, he says it irrigates "near a section" (411). Concerning the Hammond North and South ditches, he says, "it irrigates 160 acres, may be more" (412). Concerning the Smith ditches numbers 1 and 2, he says they irrigate 80 acres (412). Of the Lund ditch, it irrigates "about half a section" (412). Burg's ditch "irrigates perhaps over 200 acres," (413) Central ditch 50 acres; Sodergreen ditches numbers 1 and 2 "irrigate 300 or 400 acres." O. G. ditch "irrigates a section" (415). Sodergreen South ditch, 40 or 50 acres (415). Island ditch irrigates 80 acres (416). The Heidrick ditch irrigates 160 acres (416). Parker ditch irrigates 1,650 acres (416). The Popp & Pahlow irrigates "about 1,120 acres" (418). Sodergreen High-line ditch, built about 1910, "irrigates 4,000 to 5,000 acres" (418). Thus we find that one ranchman, being, according to his own testimony, familiar in a general way with these various ditches and the approximate dates of their construction, makes the statement of the amount of land under irrigation from twenty different ditches; but there is not even an intimation from this witness that he knew of any survey having been made of the amount of lands under irrigation, and his conclusions can be nothing more nor less than a general statement such as would come naturally from a witness familiar in a general way with conditions such as these.

We might review practically all the Wyoming testimony, but the examples which we have just given illustrate all the testimony introduced in this regard, with certain exceptions which we will discuss later.

On pages 15 and 16 of the brief, the Pioneer Canal, being the older of the larger canals on the Laramie Plains, is referred to, and it is said that the superintendent of the canal, a witness by the name of Titus, testified that ten or twelve years before 1913, he had made a map of the irrigated area under this canal which was then 17,000 or 18,000 acres, and that this amount had been irrigated up to the year 1912, when 19,000 to 20,000 acres were irrigated, although the arable area under the canal was from 35,000 to 50,000 acres.

After the defendants had commenced their survey, the engineer, Meeker, who was making various investigations for Wyoming as to water supply, areas, etc., made a reconnaissance of the lands under the Pioneer canal (827). This reconnaissance was made for the purpose of ascertaining more definitely than had been previously done, the amount of land under this canal. The measurements were taken in some instances by pacing the distance, and was not an accurate survey; but this Wyoming expert arrived at the conclusion and testified that the total amount of land under irrigation under the Pioneer canal was 11,556 acres (824, 844), although he said that he found evidence of at least 2,000 acres having been at some time previously irrigated, but not then in use. Contrast these two witnesses for the plaintiff, Titus, the superintendent of the ditch, previously testifying to the amount being from 19,000 to 20,000 acres—and by the way, he was the assistant who later helped Meeker make the measurements—where-

as Meeker, after making his reconnaissance, with Titus' assistance, found only 11,556 acres.

This lack of accuracy merely illustrates our contention that the witnesses as to the amount of land under irrigation in the Laramie Plains were making a most general estimate and their testimony is not conclusive as against a definite survey such as the defendants made. It is further significant, as showing a lack of accuracy, that the decree adjudicating the rights to the use of water from the Laramie River in Wyoming, Exhibit N, to which objection was made by the defendants and which the plaintiff now concedes is not binding or conclusive as against us, decrees the number of acres irrigated under the Pioneer canal as being 49,030, whereas in truth there had never been over 13,500 acres.

The original Wheatland tract comprises 60,000 acres and was initiated in 1884. At the date of taking of testimony, witnesses for Wyoming testified that of this, about 50 per cent was irrigated. The figure was first placed at 33,544 acres in the original tract (168), and 1,004 acres in one of the new tracts known as the Bordeaux tract, this later project including 10,000 acres. But the defendants caused a survey and plat to be made of this area. This plat (defts. Ex. 2), was shown to this same Wyoming witness, who, after examining it, testified that it was substantially correct (195). It shows a total amount under irrigation in the original Wheatland tract and the Bordeaux tract of 28,623.75 acres.

Passing now to the Little Laramie, the plaintiff contends in its supplemental brief that there is irrigated upon that tributary stream a total of 48,344 acres (983). This statement is based upon an estimate of these lands made by the same engineer pre-

viously referred to, Mr. Meeker. However, this amount includes lands irrigated above the point of measurement on the Little Laramie river. It includes the lands in the Centennial valley which we have previously described, for the irrigation of which no charge was made in stream flow against the State of Wyoming. This will be more definitely referred to later.

All this portion of plaintiff's brief appears to be in answer to the discussion of the same subject in the original brief of defendants, where, under the heading, "The Amount of Land Irrigated," commencing on page 68 of volume 1, we discuss at length this subject, and which we will briefly review here. We showed in that discussion that the total amount of land irrigated in the Poudre valley was approximately 300,000 acres. This is not questioned by the plaintiff. We then show that in order to ascertain the total amount of land under irrigation in Wyoming, a plane table survey was made by defendants, commencing at the upper end of the Laramie Plains at a point where the river leaves a narrow canon or valley and enters the high plateau area comprising what is commonly known as the Laramie Plains. This survey proceeded down the stream to a point below the junction of the Big and Little Laramie rivers, thence up the Little Laramie River to the point of measurement on the stream commonly called Filmore. Time did not permit of the completion of the survey of the entire area, consequently, as previously stated, wherever land was testified to be under irrigation which the defendants' survey had not included, the amount of that land was accepted without question in arriving at our conclusions as to the total amount irrigated. The results of this survey were definitely tabulated and are now before

the Court. The major portion of the land surveyed was platted and a photographic reproduction of the plat is in evidence (Exhibit 114). The portion of the survey not platted, includes the irrigated area for about six miles below the point termed Filmore on the Little Laramie River.

It is contended, as we have stated, that this survey, although honestly made, does not compare in accuracy with the statements of witnesses who were familiar with the land. However, the plaintiff endeavored to attack the accuracy of this survey on rebuttal, but apparently was able to find only four instances in which there were any inaccuracies, and these inaccuracies were so slight as to be almost unworthy of notice. In this connection plaintiff introduced in evidence four exhibits, S1, S2, S3 and S4, directed to the plane table survey and the plats thereof in four isolated places; but no additional testimony was introduced which in any wise discredited this survey which counsel for plaintiff had had under consideration for several months. We therefore believe this survey to be a more accurate determination of the irrigated lands than that adopted by plaintiff of introducing testimony of various witnesses who as a rule were only generally familiar with the amount of land irrigated and who did not attempt to base their statements upon surveys, but merely upon rough estimates.

As we have stated, the evidence was not taken with a view of differentiating as to the amount of land under irrigation before or after any particular date, but was designed to show the amount of land under irrigation at the date on which the suit was commenced. On page 34 of the supplemental brief plaintiff concedes that aside from a few small projects enumerated, which are insignificant, the only

Wyoming projects undertaken between 1902 and 1911 are the Bordeaux and Sybille units of the Wheatland tract, the Lake Hattie system, the King ditch and the Hutton lake, the Lake James system and the Sodergreen Highline ditch (see detailed discussion, pp. 198 to 234, Vol. II, defts. orig. brief).

Of these the Bordeaux and Sybille units of the Wheatland tracts are definite. They were apparently an afterthought occasioned by the fact that the Wheatland system had a greater amount of water available for irrigation, particularly from Reservoirs Numbers 1 and 2, than the original Wheatland tract of 60,000 acres, even assuming it to be entirely reclaimed, would require. At any rate, the original surveys of the Bordeaux tract, which includes 10,000 acres, of which only a small portion (1,004 acres according to the contention of the plaintiff), was under irrigation, were stated to have commenced in February of 1904, although application for permit was not filed until April 18, 1907 (3961), and the original surveys for the Sybille tract, which includes 30,000 acres, none of which were irrigated at the date on which testimony was taken, were commenced in August, 1907 (108). These were to be irrigated from water already provided by the Wheatland system.

Then in addition to these was the Lake James system, for which the surveys were begun on March 22, 1908 (638). This reservoir has a capacity of 41,100 acre feet (631), and water had been stored to the capacity of the reservoir (635-636); but we are absolutely unable to learn of any new reclamation which had been made by means of this storage over and above the insignificant acreage which were already under irrigation, although plaintiff contends on page 40 of its brief, "That some 1,500 acres have been irrigated out of this system of which 515 acres

were in tillage in 1913, pp. 991, 992." A reference to this evidence, however, discloses that the witness was talking of lands under what was termed the Talmadge-Buntin project, and the relationship between the Talmadge-Buntin project and Lake James is not explained.

The original surveys for the Lake Hattie system were begun April 16, 1908 (646, 774). This reservoir has a total capacity of 110,500 acre feet, of which only 68,500 acre feet is active or available. We are absolutely unadvised as to the amount of land reclaimed by means of this storage, although water had been stored to the capacity of the reservoir. Plaintiff states in its supplemental brief that 700 acres of new land were irrigated by means of this system in 1913 (p. 39).

The surveys for the Sodergreen Highline ditch were commenced in November, 1907 (445). The capacity of this ditch is not shown, but the owner of it testified that it was built about 1910 and that he irrigated from it 4,000 to 5,000 acres (418). The Hutton Lakes reservoir was a system of reservoirs designed to be filled through the enlargement of an old ditch known as the King ditch. The date of original surveys is not shown, except that it appears that an application was made to the state engineer for a permit on June 3, 1909.

At the date upon which the testimony was taken, it appears that the enlargement of the old King ditch to these Hutton, or sometimes called the Hutton and Creighton, lakes, had never been completed and that no water had been impounded in these reservoirs from this source (284), although the surplus water above the amount actually diverted from Sand Creek instead of flowing through its natural channel into

the Laramie River, flows into these lakes from which there had previously been no means of diversion and from which it wastes by evaporation (321).

It therefore is apparent that of all the land under irrigation in the watershed of the Laramie River in Wyoming, the amount reclaimed since 1902 is merely nominal and that the projects which have been undertaken since that date, of which the more important are these last six above enumerated, are prospective. Development under them is entirely for the future. Therefore, for the consideration of the suggestion of the Court in its order for re-argument, it may be said generally that there has been no reclamation of any material amount of land in Wyoming since the work complained of was begun, and we believe none whatever since this suit was commenced, although, as we will show later, of these new projects Lake James and Lake Hattie both stored enormous quantities of water. If we accept as correct the statement of the plaintiff to the effect that there has been practically no reclamation by either Lake Hattie or Lake James, then the theory which has been consistently advanced by the defendants, that these two reservoirs have been filled or partially filled for several years and that this water has been merely wasted, all to the detriment of other ditches on the Laramie River, is confirmed (see Woodhall 2741-5).

As against the plaintiff's contention that there are 152,097 acres under irrigation in the Laramie watershed in Wyoming, let us review the defendants' evidence upon this point. All the evidence on this question is summarized in our original brief under the head, "Amount of Land Irrigated," commencing at page 68, Volume I. Considering first the Wheatland tract, as we have previously stated, the Wheat-

land tract consisted of an area of 60,000 acres, approximately 50 per cent of which is reclaimed. There is no serious conflict in the testimony concerning the amount of land under irrigation in this tract. M. R. Johnston, for many years superintendent of the company, placed the amount at from 35,000 to 40,000 acres (5). J. A. Elliott, who succeeded Johnston as superintendent, first placed it at 33,544 acres (68). This, however, included 1,004 acres in the subsidiary tract known as the Bordeaux. The defendants platted the area and submitted to Mr. Elliott their map, Exhibit 2, showing a total in the original Wheatland and the Bordeaux tracts of 28,623.75 acres, Elliott testifying that this map "is substantially correct." (195). The second subsidiary tract, called the Sybille, is not yet reclaimed, the ditch leading to it being still incomplete, in that the diversion headgate, laterals and siphons are yet to be constructed (169). Later in this brief we will have occasion to comment upon the apparent relationship between these two subsidiary tracts, that is, the Bordeaux tract, containing 10,000 acres, and the Sybille tract, containing 30,000 acres, to the available water supply which has been provided ostensibly for the irrigation of the original Wheatland tract of 60,000 acres.

Turning now to the Laramie Plains area, we find more difficulty in arriving at the exact acreage under irrigation. The testimony of plaintiff, as we have explained, was very indefinite as to this. Realizing the necessity for accuracy, the defendants undertook the survey which we have described. It commenced at the point on the Laramie River known as Woods Landing, that being the head of the irrigated area on the Laramie Plains area, and ran from this point down the river to a line five miles north of the junction of the Big and Little Laramie and thence

the Little Laramie to Filmore, the point where the Little Laramie emerges from the mountain. At the point of measurement of that stream.

A survey was made in detail and a map or plat was made showing every acre of cultivation in the area surveyed, with this exception, that an area of the Little Laramie extending for a distance of about six miles north of Filmore, although surveyed, was not platted because of lack of time. Practically all of the irrigated area in the Laramie Plains was surveyed and the major portion of it platted. This plat, or rather a reduced photographic reproduction of it, is introduced in evidence as Exhibit 114, each sheet of the exhibit showing in general six page or sheet sections. In order that the Court may understand the portion of the Laramie Plains area which was not surveyed, we will explain that the survey included the main body of the irrigated land, but at various places there were irregular areas adjacent to the main body of the land and in other places isolated tracts under irrigation. These in some instances were neither surveyed nor platted.

In addition to this plat tabulations were made of the irrigated areas on both the Little and Big Laramie (Exhibits 117, 118). Wyoming had no reconnaissance to be made of the Little Laramie area by Mr. Meeker. This was tabulated and classified, as shown by plaintiff's Exhibit E, and summarized the total irrigated area on the Little Laramie River, including the Seven Mile and Four Mile creeks, as being 49,553 acres, although the engineer, Meeker, in his oral testimony placed the amount at 48,344 (983), which is the amount adopted by the plaintiff in its supplemental brief. The defendant's survey of this area showed 31,341 acres (Ex. 117, pp. 2760-2767). The discrepancy between

these two statements is explained in part by this: The tabulation made by the Wyoming witness, Meeker, showed that he included lands lying above Filmore, the point of measurement on the Little Laramie River. This means about 11,611 acres, which we contend must not be considered for the reason that the water for the irrigation thereof was not measured or charged to the stream by either party this action, it being, as we have previously described, land similar to the 4,250 acres above the State line in Colorado on the Laramie River, although it will be readily seen that the State of Wyoming gets the better end of this elimination. Nevertheless the situation was tacitly conceded in that manner by both parties to the suit, except as Meeker includes this land in his Exhibit E. However, after eliminating this amount, we find that Meeker's reconnaissance shows 37,942 acres, as against Woodhall's 31,431, but in this Meeker included 2,445 acres on Four Mile and Seven Mile creeks which Woodhall puts into a different classification. The discrepancy, therefore, between the two is 4,156 acres.

Passing now to the Big Laramie, as the Court is already advised, plaintiff attempted no definite survey and offered no definite evidence of the total amount of acreage irrigated. Engineer Meeker made a reconnaissance of the lands irrigated by the Pioneer Canal. This reconnaissance occupied five days. He was assisted by the superintendent of the Pioneer Canal, one Titus, who had previously testified that the amount of land irrigated by the Pioneer Canal was from 19,000 to 20,000 acres. Meeker's reconnaissance was not a survey, measurements being sometimes made by pacing the distance (827). By this method he arrived at the conclusion and testified that the total amount under irrigation under

the Pioneer Canal is 11,556 acres, which is to be contrasted with the previous claims made by his assistant, Titus, and is startling when considered in connection with the decree wherein the appropriation of the Pioneer Canal had been adjudicated, awarding that ditch a priority date of April 19, 1879, for the irrigation of 49,030 acres.

One definite survey seems to have been made by the plaintiff and engineer Sevison testified to the number of acres under the Oasis ditch. The plane table survey did not extend to the extreme limits of irrigation under this ditch, nor to the extreme limits of another ditch known as the Boughton ditch, both of these ditches irrigating lands below the junction of the Big and Little Laramie. Neither does the plane table survey include the Gillespie, Dunn and McGill ditches, which are still further down the river. In reaching their conclusions of the total amount under irrigation, the Colorado engineers accepted as a basis the amount which their survey disclosed, and to this amount was added the amounts as given by the Wyoming witnesses for each tract or parcel of land not included in this survey.

These areas and the locations thereof were carefully checked by the engineers who made the plane table survey (2788), and the conclusion reached that the total amount of land under irrigation in the State of Wyoming from the Laramie river and its tributaries between the Colorado-Wyoming line and the canon of the river below the Laramie Plains was 90,610 acres (2792). But this amount includes the amount shown by Mr. Meeker in his Exhibit E, above Filmore, 11,611 acres, which we insist must be eliminated from consideration, leaving the *net amount on the Laramie Plains below Filmore on the Little Laramie and below Woods Landing on the Big Laramie, irrigated from the Laramie River, including its*

s Sand Creek, Soldier Creek, Seven Mile, tribe, Willow Creek, Cooper Creek and any Fources of supply, 78,999 acres. Included in othe of 78,999 acres are 31,341 acres on the Little this and 29,279.3 acres on the Big Laramie, Lar. Exhibits 117 and 118, which were covered show a table survey and classified according to by t to which the land was devoted.

the rence is made to pages 2761 to 2792, inclu- a review of the evidence of the witness, sivel, who made the critical analysis of the Wyo- Woodence and checked the same against the minple survey.

planummarize, the irrigated land in the Wheat- a is 29,074.75 acres, and on the Laramie land 8,999 acres, or a total of a total of 108,073.75 Plais being the amount for which the total flow acre Laramie River, together with its main tribu- of t Little Laramie, and the smaller tributaries, tary creek, Willow Creek, Four Mile, Five Mile, San Mile and Cooper Creek, Blue Grass, Sybille Sev and other tributary sources is demanded, ex- Cre only the average annual diversion of 20,000 cept t through the Skyline and Divide ditches in acre 10. This amount represents the area of both Col d old development. We contend that the evi- new which Colorado introduced based upon these denc is obviously more accurate than the general surv ents of a number of Wyoming witnesses, and stat is figure, 108,073.75 acres, should be consid- that rather than the amount contended for by the erec ff, 152,097. Manifestly 11,611 acres of the plai t contended for by plaintiff in its supplemental amc s included within the irrigated area testified to brie eker, being a part of the area shown in Ex- by 3, and lies above Filmore, the point of measure- hibi on the Little Laramie River. mer

III. WATER SUPPLY.

This question was the subject of much evidence introduced by both parties. In the main, however, only four witnesses testified concerning the supply of water available for Wyoming lands, one of these, Mr. R. I. Meeker, testified for the plaintiff, the others, Professor Carpenter, Charles R. Hedke, at one time engineer of The Laramie-Poudre Reservoirs and Irrigation Company, and John E. Field, State Engineer of Colorado, were introduced by defendants. We reviewed this evidence exhaustively in our original brief, and inasmuch as nothing will be gained by again reviewing it in its entirety, may we respectfully beg the attention of the Court to this discussion appearing in defendants' brief, volume 1, pages 16 to 68, inclusive. The subject is technical and the sources of information vary, with numerous measurements and other hydrographic data considered.

The defendants in this connection sought primarily to establish the normal flow of the Colorado branch of the Laramie River at the state line. This, of course, would represent the amount of water which Colorado was contributing to the total flow of the river. And, secondarily, to establish the total amount of water in the Laramie River, including its tributaries, available for the whole area, including the Wheatland tract, or in other words, the total flow of the Laramie River and its tributaries measured at a point which would include the diversions for the Wheatland tract. This would include in addition to the flow at the state line, the flow of such tributaries entering the stream in Wyoming as Johnson and Beaver creeks, Sand Creek, Willow Creek, Soldier Creek, the Little Laramie, Four Mile, Five Mile and Cooper creeks, Blue Grass, Sybille and other tribu-

taries and sources of supply within the area mentioned. The tributaries entering the stream in Colorado are of course included in the measurements of the stream at the state line.

No evidence was introduced by the plaintiff seeking to establish definitely the amount of flow of the river, in the presentation of the evidence in chief. However, the one witness upon this subject for the plaintiff, Mr. R. I. Meeker, produced tables purporting to give the flow of the stream at the Pioneer dam. This dam is about nine miles below the state line and about three or four miles below the point known as Woods Landing, where measurements were also taken, Woods Landing being, as we have stated, the head of the Laramie Plains. There are several diversions between Woods Landing and the Pioneer dam, one of which, the Sodergreen Highline, is, according to the contention of the plaintiff, used for the irrigation of from four to five thousand acres. It is therefore apparent that the total flow of the river at the state line is not correctly represented by measurements taken at the Pioneer dam. This witness, Meeker, however, on rebuttal based his conclusions of the total flow of the stream at the state line upon measurements made at the Pioneer dam, as we will show later.

In the presentation of the evidence in chief, Meeker introduced a table, Exhibit B, purporting to give measurements of the flow of the river at the Pioneer dam from April to December, inclusive, in the year 1912, and from January to August 18, 1913. Another table was later substituted for this one, purporting to show additional measurements taken, the second one being Exhibit I, which in turn was supplemented by Exhibit T-7 on rebuttal. On Exhibit T-7, which gives Mr. Meeker's measurements

at the Pioneer dam for the short period of the months of April to December, inclusive, in 1912, all of 1913 and from January to the 15th day of May, 1914, Mr. Meeker has arrived at the conclusion that the run-off of the Laramie River at the Pioneer dam near Woods Landing, Wyoming, January 11 to December 31, 1912, was 207,000 acre feet; run-off at the same place January 1 to November 30, 1913, 109,593 acre feet. The figures showing the monthly discharge upon this table are stated to be, in large measure, the result of actual measurements made by Mr. Meeker. Therefore it is obvious that the diversions above this point both in Colorado and Wyoming, have been deducted, and this is the net flow at the Pioneer dam.

In order to arrive at a conclusion as to the total amount of water included within the Laramie River flow at this point, there must of necessity be added the amounts of these diversions. We have admitted an average diversion of 20,000 acre feet by the Skyline and Divide ditches. As a matter of fact, in that particular year, it appears from defendants' table, Exhibit 124, that these two ditches diverted 23,143 acre feet, so without including the amount of the Wyoming diversions above the Pioneer dam, the total flow, according to Meeker himself, at the Pioneer dam would be 230,143. We do not intend to overlook the fact that the Wyoming diversions above this point are considerable and must be charged against the flow of the stream. The same allowance must be made in considering the conclusions of the witness concerning the flow for the year 1913.

Much has been said as to what is meant by the term "normal flow." The term "normal" as used is synonymous with the word "average." As we understand it, this is the basis taken by all hydrographers. It is likewise the basis taken for determining the

normal precipitation. It is objected to by the plaintiff, but there can be no misunderstanding of the term. The defendants were endeavoring to ascertain what was the normal or average flow of the stream.

As we have just stated, the only evidence upon this point introduced by the plaintiff was the testimony of Mr. Meeker, and his first two tables, that is, B and I, purporting to give measurements at the Pioneer dam on the Laramie River, which were introduced in evidence during the presentation of the plaintiff's case in chief. The defendants introduced the three witnesses mentioned. It is argued by the plaintiff in the supplemental brief that the evidence given by Mr. Meeker, based upon his own actual measurements, is entitled to greater weight than the evidence of the three Colorado witnesses, the contention being made that of all these three Colorado witnesses, no personal investigations or measurements were made by any of them with the exception of a few taken by Professor Carpenter in the year 1912 (101). This statement, however, is radically at variance with the facts. Professor Carpenter while director of the experiment station at Fort Collins, succeeded in establishing, through the United States Geological Survey, various rating stations on the Laramie River, commencing with the year 1902 (3789-3790). After the Geological Survey ceased taking these measurements, Professor Carpenter furnished an automatic gauge to the water commissioner, Mr. Decker, who continued taking measurements at the state line (3791). Then later Professor Carpenter was employed as consulting engineer by the Greeley-Poudre District and made a report concerning the water supply available for that district based upon a long

series of investigations, including the Poudre and Laramie rivers, supplementing the records previously taken by the United States Geological Survey and by the water commissioner, above mentioned (3933, 3946). These were followed by a long series of measurements by him and his assistants on the Big Laramie and tributary streams in the year 1912, as well as upon the Little Laramie and tributaries (3792). In one of these measurements by Professor Carpenter, it was discovered that there was a very grave error in all the records taken at the state line in this, that at high water, an overflow occurred through certain channels which had not been measured or considered in the previous records (3792 to 3816, 3940, 3946).

These measurements were also supplemented by snow measurements taken under most difficult circumstances on the range of mountains to the west of the Laramie River, which is the chief source of supply of that river and its tributaries. These snow measurements were taken for the purpose of aiding in the stream measurements and also for the purpose of determining the relative supply of Wyoming and Colorado areas (3816, 3824). Two hundred or more observations of the depth of snow on this water-shed were made at different places. Photographs showing these conditions were taken and many of these introduced in evidence. They are contained in Exhibit 156. We respectfully submit that Professor Carpenter was so amply qualified to testify upon this subject, that it is absurd to contrast his qualifications with those of Mr. Meeker, whose conclusions were based, according to his own admission, upon measurements taken in part of the year 1912, all of 1913 and the first three or four months of 1914, and without previous knowledge whatsoever of the Laramie River or the area in controversy.

Charles R. Hedke had been engineer for the construction company, that is, The Laramie Poudre Reservoirs and Irrigation Company and was an irrigation engineer of wide experience (1723 to 1734). He designed and was in charge of the major portion of the engineering work connected with the Greeley-Poudre System and co-operated with Professor Carpenter in 1909 in collecting the data as to the available water supply for the Greeley-Poudre District (1850 to 1853).

John E. Field was State Engineer of Colorado at the time the evidence in this case was taken and had been previously in the employ of the Reclamation Service of the United States Government, and had made numerous investigations on the Laramie River. Still earlier he had been State Engineer of Colorado and also Deputy State Engineer. His duties as State Engineer required him to supervise the distribution of water from the streams of the state and the taking of measurements (1377-1380). His conclusions as to the flow of the Laramie River are based upon an analysis of all stream data pertaining to the Laramie River; measurements taken by the United States Geological Survey, others taken by the State of Colorado, others taken by the State of Wyoming, measurements taken by Professor Carpenter and in fact all sources of information including a critical analysis of the tables and conclusions reached by Mr. Meeker, the Wyoming engineer (3387 to 3453; 3465 to 3510; to 3862).

The conclusions of these three expert witnesses as to the total flow of the Laramie River at the Colorado-Wyoming line, may be given as follows: Professor Carpenter testifies that the amount, after deducting the 20,000 acre feet diverted by means of the Skyline and Divide ditches, is in excess of 300,000

acre feet per annum (3956). Adding the flow of the Skyline and Divide diversions we therefore have according to this expert, testimony that the gross amount of the Laramie River flow at the Colorado-Wyoming line is in excess of 320,000 acre feet per annum. Charles R. Hedke concluded that the total average amount which might be diverted through the Greeley-Poudre System from the Laramie River was 70,000 acre feet per year, that amount being twenty-five per cent of the flow of the river at the state line (1823-1852). Adding to this the 20,000 acre feet diverted by means of the Skyline and Divide ditches the gross amount according to this witness, is 300,000 acre feet at the state line. Mr. Field after making a critical analysis of all records and measurements as above stated, testified that his conservative conclusion from all records is, that the average total flow at the state line, including the Skyline and Divide diversions, will exceed 250,000 acre feet per annum (3477).

These conclusions were based upon so many measurements and upon so much engineering data, that it is extremely difficult to condense the evidence. In fact, it is difficult to understand the details unless one is familiar with not only the circumstances under which the measurements were made, but also the place where the measurements were made and the topography of the country. We have condensed this evidence into narrative form in our original brief. It will be found under the head of "Water Supply", at pages 16 to 68, of volume 1. May we ask that our treatment of the subject there be considered in connection with this supplemental brief.

As we have stated, the Wyoming measurements made by Mr. Meeker from the time he commenced in 1912, were continuous up until the close of the period

devoted to the taking of evidence. On rebuttal Meeker's previous figures were modified, enlarged and in some instances corrected after criticism by the Colorado witnesses, and at almost the close of his testimony, he stated in answer to a question as to his opinion relative to the amount of flow in the years 1912 and 1913 on the Big and Little Laramie:

“Based on review of the flow records taken in a general way, and other hydrographic information, I have concluded that the year 1912 was slightly above normal in the Laramie River basin, and that, roughly, the normal at Woods Landing station or Pioneer dam is approximately 200,000 acre feet, the year 1913 being a trifle above 50% of normal” (4296).

This conclusion is based upon Meeker's own measurements and yet, according to his Exhibit T-7, the net flow after deducting the Skyline and Divide diversions of 23,143 acre feet and after unknown diversions had been made in Wyoming above his point of measurement, the net amount obtained by him was 207,000 acre feet for the practically normal year of 1912. If 1913 was, according to Meeker, a trifle above 50% of normal, it would then appear that inasmuch as he gives the 1913 flow at the Pioneer dam as being 109,593 acre feet for the period from January 1 to November 30, the normal flow at that point after deducting both the Colorado and Wyoming diversions above, would be in excess of 219,186 acre feet. In that particular year (contrary to the contention made by the plaintiff in their supplemental brief, that in years of low flow more water would be diverted by Colorado from the Laramie

River than in years of high flow), only 14,693 acre feet was diverted by the Skyline and nothing by the Divide Ditch (Exhibit 124). Adding the 14,693 acre feet, we would have according to this basis, 233,879 acre feet as the normal flow of the river at the head of the Pioneer Canal after deducting the unknown amount of the Wyoming diversions above. It therefore appears that the criticism indulged by Mr. Meeker of Mr. Field's conclusions is scarcely justified; neither do we believe that counsel for Wyoming are justified in their attempts to discredit the Colorado witnesses in favor of Mr. Meeker.

It must be born in mind that the amount of the Colorado branch of the Laramie River at the state line, by no means defines the total amount of water available for the irrigation of the Wyoming lands down to and including the Wheatland tracts. The other principal source of supply is the Little Laramie which all witnesses seem to agree carries about one-half the amount of water discharged by the Big Laramie at the state line, according to ratings at or near the station called Filmore, that being the point at which the Little Laramie River emerges from the mountains onto the Laramie Plains. The Wyoming witness, Mr. Meeker, in his table T-8, gives this flow as 93,667 acre feet for the year 1912 and 59,637 acre feet for the year 1913 at this station. It must be borne in mind that in taking measurements of the flow of the Little Laramie, no attempt was made by any witness to charge to the stream the water diverted for the lands above the station, that is, for the irrigation of what is generally called the Centennial Valley (3469). Witness Field concludes that the total flow of the Little Laramie, less diversions above, at or near Filmore, was 120,700 acre feet per annum, as an

average or normal (3472). Hedke did not testify concerning this tributary stream.

In the year 1912, Professor Carpenter in addition to his snow measurements took gaugings of the Little Laramie at Filmore and kept daily records. At that point the drainage area of the Little Laramie is about 163 square miles or 104,000 acres. The run-off for the month of June as found by Professor Carpenter was 76,632 acre feet, and for July, 27,676 acre feet, or a run-off for these two months alone equal to practically one foot in depth for the entire drainage area. In other words, the run-off for June and July alone in the year 1912 amounted practically to 104,000 acre feet (3894). This is to be contrasted with Meeker's statement given in his Exhibit T-8, wherein he says that the total run-off for the entire year 1912 at this point was 93,667 acre feet. Counsel for Wyoming in their Supplemental Brief conclude that the flow of the Little Laramie as an average is 110,000 acre feet per annum (p. 115).

The witness, Field, summed up all of the data, not alone for the flow of the Big Laramie at Woods Landing, but also all data concerning the river and its tributaries, and he arrived at the conclusion that the *total amount of the normal flow of the stream* after deducting the amount available for all irrigation in Wyoming, including the Wheatland tracts, is in excess of 431,200 acre feet per annum (3476), and that this is by no means the total flow of the river, inasmuch as it does not consider the supply received from a tributary not heretofore mentioned, called the North Laramie, nor from the Chugwater, both of which, however, join the main stream generally below the Wheatland tract. Their water, however, is available for the irrigation of lands lying along them and also for irrigation through a number of ditches

diverting water from the main stream below that point, including the Cross T. Ditch No. 2, Scissors Ditch, Laramie River Ditch No. 1, Cross T. Ditch No. 1, A. N. Spencer Ditch, Phillips Ditch, Uva Ditch, Yates Ditch, McCormick and Bright Ditch, Gallagher Ditch, Reid Ditch, Thompson Ditch, Ryan Ditch and Combination Ditch. All seepage and return water from the meadow tract is also available for these ditches. It is to be noted, however, that the lands irrigated by means of these ditches last mentioned were included within the total contended for by Wyoming (See 17, 18 and 21, Supplemental Brief). It would seem fair, therefore to include the water of the North Laramie and Chugwater in our calculation.

May we refer to the conclusion as to the water supply stated by counsel for Wyoming in their supplemental brief. On page 115, they state:

"Our conclusion is that the average annual flow of the Laramie River is not to exceed 200,000 acre feet, and the average annual flow of the Little Laramie is about 110,000 acre feet, and that these two sources constitute the entire supply of water available for the irrigation of the lands served by these streams."

And on the same page the small tributaries, they say on the

"As a matter of fact all of these small creeks are utilized for the irrigation of the lands along them, the area of which was not included in the tabulation of the water diverted from the Laramie River but of which is indicated by the adjudicated decrees hereinbefore abstracted."

However, these lands on the small tributary streams, insofar as they lie within the general area known as the Laramie Plains, are included within the amount of land which they claim to be irrigated. Note their own brief, wherein on page 21 they tabulate the total amount of irrigated land according to their contention, including "Total irrigated from Sand Creek 5,898 acres. Total irrigated from Little Laramie River 48,344 acres." Then turn back to the bottom of page 18 wherein under the heading, "Ditches from Tributaries", they say: "The area irrigated from Sand Creek and its tributaries under ditches constructed prior to 1902 (p. 902) is 5,898 acres, (pp. 898-9)."

The engineer of the plaintiff determined the irrigated area upon the Little Laramie River *and its tributaries* below the mountains, the mountain ditches not being included, by a reconnoissance made in October, 1913, as follows: The Little Laramie River, 45,899 acres; Seven Mile Creek, 1,527 acres; Four Mile Creek, a tributary of Seven Mile Creek, 918 acres, total 48,344 acres, (pp.982-3). "The lands found to be irrigated are listed in the schedule commencing p. 995." The schedule commencing on page 995 is plaintiff's exhibit E, above referred to and includes not only the lands on Seven Mile and Four Mile Creeks, but also includes, as we have heretofore stated, 11,611 acres lying above Filmore, as an examination by sections and townships of Exhibit E discloses.

It therefore becomes apparent that the plaintiff is seeking to charge against Colorado, the irrigation of lands on tributary streams without making allowance for the inflow from those streams. May we reiterate this is not a suit by individual appropriators. The State of Wyoming is suing the State of

Colorado and we are not concerned with the location of these lands, except that they be within the Laramie River drainage area in Wyoming. Obviously this stream and the land within its watershed cannot be divided to suit the convenience or the argument of counsel. We contend that these Wyoming lands must be treated as a whole and that the total water supply available for them must be considered.

It was ingeniously stated in the original brief filed by the plaintiff at a portion referring to the tributary streams: "As has before been stated, Sand Creek is not in reality a tributary of the Laramie River. A large part of its supply is diverted into the Poudre Valley through the Divide Ditch and the balance is used along its course, so that only in unusual years does any part of its water reach the river." And now, in the supplemental brief we find that there is an admission that in Wyoming 5,898 acres are irrigated from Sand Creek.

This stream is naturally a tributary of the Laramie River and the reason that the waters do not reach the Laramie River, even after the irrigation of the 5,898 acres, is this: All of the water remaining after irrigation above, was diverted from Sand Creek through a ditch known as the Hogue Ditch, thence into a stream called Antelope Creek. The surplus above Hogue's irrigation passed down Antelope Creek into either Creighton or Hutton Lake from which there was no outlet and where the water was merely wasted by evaporation (320-321). This is the same Hutton Lake mentioned as being one of the new Wyoming projects now proposed to be utilized as a reservoir. Upon this statement of facts Wyoming contends that Sand Creek is not a tributary of the Laramie River.

The plaintiff further contends that theoretical measurements of the Laramie River cannot prevail against the experience of irrigators in that state who testified to a shortage of water (when invariably it was ascertained, upon examination of the witnesses themselves and the water commissioner, that the alleged shortage was occasioned by so-called "two-story" ditches, unable to divert available water, 509-10, 1283-4, 1288-9); that the normal flow of the stream is not a proper criterion of the question, inasmuch as the Wyoming lands cannot be irrigated in years of low flow by water which was available in years of high flow, etc.; that the seasonal distribution of the flow of the river is such that Wyoming must surely be damaged by the Colorado diversion which will be made at a point where the flow is more constant than it is on the lower river; and that the construction of the defendants requires the construction of flood reservoirs by Wyoming for the conservation of unprofitable waters which reservoirs, it is contended, are not profitable. It is said in the brief: "But no wheat was raised by the use of water that flowed two years ago, and the high flood of 1912 would be of no possible value to the farmer in 1913, unless by the construction of reservoirs, that flow was conserved for the subsequent year."

This argument is ingenious. In the first place, what is more logical than to attempt to determine the normal flow of this stream? If Colorado should contend for the maximum flow, obviously Wyoming would have a right to complain at any attempt at a division of water on this basis. No enterprise could be undertaken on this basis. No enterprise could be undertaken based upon the expectation of diverting water according to the flow of abnormally high years. This is clearly explained by Professor Carpenter (3946) a portion of whose testimony is quoted on p. 93 of

Plaintiff's Supplemental Brief. *Had the preliminary discussion of the subject been also quoted*, counsel could not have drawn from it the conclusion they seek. On the other hand, it would be manifestly unfair if the Colorado distribution were to be limited by a consideration alone of the minimum flow. This would overlook the possibilities of procuring water for necessary irrigation during years producing a flow of more than the minimum. No such test would be just, therefore it appears entirely logical that the average flow is the only one which can properly be taken into consideration, unless the defendants be required to refrain from all diversion when the flow of the river is not up to normal. Apparently this is what the plaintiff is contending for. It amounts to this: That they wish to be insured by prohibiting any diversion whatsoever in Colorado, that the minimum flow of the river will be retained. Naturally we do not believe that they are entitled to any such condition. Years of low flow will occur as well as years of high flow, and all irrigators of necessity must take the chances of a short supply of water in occasional years.

The contention of counsel that Colorado by reason of the location of its diversions, is in a better position to insure itself against a low flow than Wyoming appropriators because the stream flow at the point of the Colorado diversions is more uniform throughout the year than lower down, is based upon a fear more imaginary than real. The tunnel itself, as the evidence discloses, diverts water from what are termed the East and West forks of the Big Laramie River, and at the point of diversion this stream is very small. In order to supplement this amount, three collection ditches were designed to bring to the tunnel the water from some of the tributary streams.

The collection ditch on the east, known as the East Side Collection Ditch, taps a tributary of the Laramie known as Deadman, about nine miles below the tunnel and carries the water along the side of the mountain forming the eastern wall of the Laramie valley, up the valley to the tunnel. The West Side Collection Ditch in the same manner taps several small creeks and Rawah Creek, another tributary. This may in time extend to intercept a portion of the waters of a third tributary known as McIntyre Creek. In this manner the estimated 15,000 acre feet is to be added to the 56,000 now contemplated to be diverted through the tunnel. And the Upper Rawah Ditch intercepts waters of the same stream at a higher elevation.

As we have explained, these collection ditches, based upon the history of the Skyline ditch, cannot be operated in the winter time, and all of the winter flow of these tributary streams must pass down into the Laramie (1825 and 3423). Moreover, the engineers in charge of the project, frankly stated that it would be impossible, in the first place to intercept all the water of the tributary streams, and in the second place to convey it through the ditches to the tunnel because of the very heavy loss from ditches located as these are (1664, 1669-1674). This water, though lost to the ditches, contributes to the supply of the river. Furthermore the streams intercepted are merely a small percentage of the total number of tributary streams supplying water to the Laramie River.

The snow investigations taken under the direction of Professor Carpenter and before referred to, were made in part for the purpose of disclosing the relative value as a source of supply of the range of mountains to west of the Laramie River in both states. These investigations disclose that, while a

few of the peaks immediately at the head of the Colorado branch of the Laramie River are somewhat higher than the peaks in Wyoming, nevertheless the precipitation along this range of mountains in Colorado and Wyoming is substantially uniform and the higher elevations at the southerlymost extremities of the Laramie River drainage area are off-set by a greater width of the range in Wyoming (3818-3823; 3883, 3892 and Exhibit 156). The mountain area included within the Laramie River drainage which can be intercepted by the Skyline ditch is only $15\frac{1}{2}$ square miles. The additional drainage which can be intercepted by the Greeley-Poudre system is only 63.5 square miles, whereas the total Laramie River drainage within the State of Colorado is 393 square miles (1398). To the answer of the defendants The Greeley-Poudre Irrigation District and The Laramie Poudre Reservoirs and Irrigation Company, there is attached a large map showing the Laramie River and the Poudre River drainage areas. On this map, which is known as Exhibit 1, the drainage area which can be in part intercepted by the Skyline Ditch is colored yellow and the drainage area which can be intercepted by the Greeley-Poudre system, is colored purple. The total drainage area of the Laramie River in both states is something in excess of 4,000 square miles.

All the stream flow records show what we may term a flood season. This usually occurs in the latter part of May and the first of June. At this stage the streams carry very much more water than at any other period of the year excepting only unusual floods. As a rule this high water comes at a season of the year when irrigation is not yet as urgently needed as later in the season, and any irrigation system based entirely upon the amount of water which

can be diverted during the summer season from streams such as are the Poudre or the Laramie River, will be limited to but a small proportion of what is possible if these flood waters be stored for later use. This is clearly illustrated by the development in the Poudre valley. A number of witnesses testified to this development which is typical of practically all irrigation districts. This development of the Poudre Valley was reviewed by Professor Carpenter at length. He described the conditions prior to 1870 when small ditches applying water close to the river were the rule, stating that at that time, there was under irrigation in the Poudre Valley perhaps 10,000 acres; that in the decade from 1870 to 1880, larger or community ditches were constructed and that the irrigated area was enlarged to possibly 80,000 acres, at which time there was constant complaint of a shortage of water. The witness says at one place: "There was a lack of water under each of these canals in the beginning. There was an acute situation under these canals. The pressure for water was felt at that time. When I first came to Colorado to reside permanently in 1888, the situation was more acute than it has been since." The fourth period of development which the witness describes as being that of reservoir construction, started about 1880 and has continued up to the present day. With the construction of reservoirs came the effort to obtain water where available from other watersheds. In 1890 there was perhaps 135,000 acres irrigated in the Poudre Valley. This amount has increased until today there is approximately 300,000 acres. (See testimony of Professor Carpenter 2259 to 2294). Similar testimony was given by the witness John L. Armstrong who had been for many years water commissioner of Water District No. 3, of Colorado, which

includes the Poudre Valley. He describes at length the irrigation system which has been developed in that area; the method of exchange between reservoirs and ditches in order to secure the highest possible use of the available water and the wonderful returns accomplished by agriculture under irrigation in that valley (2454, 2584). In the year 1912, the total amount of storage capacity in these reservoirs of the Poudre Valley was 146,665 acre feet (3721). This is much less than the aggregate capacity of the Wyoming reservoirs. It is apparent that the storage of water in these reservoirs coupled with the more systematic method of distribution accomplished largely by the practice of exchanging between ditch and reservoir and between reservoir and reservoir in order to secure the most advantageous use of the available water, has resulted in the irrigation of approximately one-half of the land now irrigated in the Poudre Valley with less complaint between the various users of water and with less danger from a shortage in the supply. But the Poudre River supply has been so diminished that more water must now be obtained from other streams.

The Laramie River area in Wyoming is more fortunate in its storage facilities than the Poudre Valley. The country being in part mountainous, lends itself to reservoir construction at very little expense. It is of interest to note the capacity of some of the reservoirs mentioned in the evidence. The Wheatland system has two, one situated near the center of the original Wheatland tract, known as Wheatland Reservoir No. 1. This reservoir can receive water from the Laramie River through the tunnel diverting water from that river into Blue Grass Creek, thence into the Sybille, from which it is diverted by the ditches of that system. In addition to

this source of supply it is able to receive water flowing naturally in both Blue Grass and Sybille creeks. The capacity of the reservoir is 7,000 acre feet (166). Wheatland Reservoir No. 2, is a channel reservoir located just above the canon where the Laramie River passes through the range of mountains forming the eastern edge of the Laramie Plains. It has a capacity, according to the survey thereof on file in the State of Wyoming and according to the witnesses introduced for the State of Wyoming (particularly M. R. Johnston, for many years superintendent of the system), of 126,000 acre feet (6, 66), although the hydrographer for the State of Wyoming, Mr. R. I. Meeker, by his own process of reasoning, places its capacity at 83,400 acre feet (4309). We understand that there was a controversy in the adjudication proceedings resulting in the decree on the Laramie River, between the owners of the Wheatland Reservoir No. 2 and the owners of Lake Hattie. Mr. Meeker was an employee of the latter and was primarily engaged in an investigation of the Laramie Plains area and we believe that his determination of the capacity of the reservoir at 83,400 acre feet, the same being materially less than the capacity established by the survey of the reservoir by the owners thereof, was due to the fact that according to his tables of stream flow, he did not have a sufficient amount of water with which to account for the capacity of 126,000 acre feet, although it is admitted that this reservoir has not only been filled many years, but at times escaped destruction only by a narrow margin because of the surplus amount of water coming down the river which of necessity entered the reservoir because of its location, the dam being across the river channel. By this statement we do not desire to be understood as

challenging Mr. Meeker's honesty. We feel rather that he was so impressed with the accuracy of his own measurements of stream flow that he felt the capacity of the reservoir must be less than shown by the survey, otherwise he could not account for the extra amount of water stored in it. In the original brief filed by the plaintiff, it is interesting to note the attempt to explain the discrepancy upon the theory that 83,400 acre feet was the active capacity, the remainder being inactive or unavailable storage (p. 20). There is not, however, a suggestion in the testimony of any witness that any material portion of the 126,000 acre feet in this reservoir was inactive or unavailable. In their supplemental brief, counsel say on page 78: "The Wheatland project has had the advantage of a reservoir with a capacity of more than 80,000 acre feet."

The next reservoir which we wish to consider, is Lake James, with a capacity, according to Wyoming testimony, of 41,100 acre feet (632), and the fourth, Lake Hattie, with a capacity, according to Wyoming testimony, of 110,500 acre feet of which 42,000 acre feet is inactive or unavailable, leaving 68,500 acre feet available to be withdrawn from the reservoir (786,787). Lake Hattie is so situated as to be able to receive water from both the Big and Little Laramie Rivers. Both enterprises have been constructed since 1908. There was no controversy between the various interested parties in Wyoming as to the capacity of Lake Hattie and Lake James.

There are other reservoirs besides these which we will not take the time to consider, but these four alone have a total active capacity of 242,600 acre feet, almost 100,000 acre feet more than the combined capacity of all reservoirs in the Poudre Valley (3921).

The plaintiff in its supplemental brief has very kindly given us some intimation of the cost of construction of a portion of the system for the irrigation of the Wheatland tracts. It is stated on page 17 of the brief that the expenditure prior to 1902 on Reservoir No. 2, was \$115,541.56. We are not given any intimation concerning the cost of Reservoir No. 1, but inasmuch as Reservoir No. 2 is the larger reservoir with the capacity of 126,000 acre feet, it is apparent that this reservoir, exclusive of the diversion system, cost less than \$1.00 per acre foot of storage. This cost, in comparison with either large or small reservoirs throughout all the irrigated sections of the country, is merely nominal. This reservoir was built, according to the contention of the plaintiff, to furnish water to the settlers on the original Wheatland tract at a time when, although only a small portion of the tract was irrigated, complaint was made that there was a shortage of water in the direct flow of the stream. In the face of this illustration, Wyoming contends that the construction of reservoirs for the storage of flood waters is not profitable in Wyoming; in other words contending that they do not have a sure and certain supply for their early appropriations from the Laramie River (which in itself is contradicted by their own contention and which supply will not be interfered with by the diversions in Colorado), but that they are not called upon to spend money for the purpose of conserving flood waters. Now, which is correct? Did they have a sure and certain supply without storing, or not? If they did, why were these reservoirs built?

So important to the whole country is the conservation of flood water supply and winter flow in all irrigated areas—and of this the Court will take judicial notice—that immense sums of money have

been expended in the construction of reservoirs. Some of those of the United States Reclamation Service need only be brought to the attention of the Court. For illustration, that enormous reservoir constructed on the Rio Grande, commonly known as the Eagle or Elephant Butte Reservoir, with a capacity so great as to be astounding, it being given as high as 2,638,860 acre feet, for the construction of which, together with the diversion system under it, \$10,000,000 was appropriated; the Pathfinder reservoir on the North Platte River in Wyoming, impounding approximately 1,070,000 acre feet; the Roosevelt reservoir on Salt River in Arizona, capacity of 1,367,300 acre feet; the Shoshone reservoir in northern Wyoming, capacity 456,600 acre feet, and many others, both government and private projects which might be mentioned. Why were these reservoirs constructed? Why the expenditure of enormous sums of money in this manner? Obviously for the purpose of impounding flood and other waters in order that the needs of mankind might be supplied through the food which is produced upon the areas brought under cultivation by the use of this water for irrigation. To argue that reservoirs are unprofitable, except possibly under peculiar conditions, is to admit, either that there is a surplus of water for the irrigation of the area in question and that the low flow of the stream in itself is sufficient for this purpose, or that the returns from the irrigation of these lands is not sufficient to justify the expense. That can be true only where the lands are not suited for agriculture. The conservation of the natural resources of the country demands that flood waters be impounded and that these impounded waters be made to perform their natural duty in the irrigation of land in order that our people may be fed.

The plaintiff further contends that the Wyoming prior appropriators have already experienced a shortage in water, which any diversion by Colorado will necessarily increase, citing the evidence of several witnesses, under some of the smaller ditches on the Laramie Plains which the water commissioner says are "two-story" ditches—too high to draw water (1282-4, 1288-9), which is also admitted by the witnesses (509-13), and also the statement that even since the construction of the Wheatland reservoir, farmers under that reservoir have not had as much water as they wanted. It is argued that regardless of the normal flow of the stream and the duty of the water, that the condition thus established by the actual experience of these irrigators proves that the water in the stream has already been appropriated in Wyoming. It is not surprising that individual users of water occasionally find themselves without adequate supply—more frequently without what they consider an adequate supply—for it is the experience of all irrigators that there is a tendency on the part of farmers, particularly those new to irrigation, to seek to apply more water than is reasonably required (2322-2324 and 2497). We have heretofore shown that as early as 1880, when there was only 80,000 acres of land irrigated in the Poudre valley, there was frequent complaint of lack of water (2280 and 1403), and it was thought that the limit had been reached in the reclamation of that area. Later development has shown conclusively that there was not a general shortage of water at that time, nor was the ultimate reclamation attained. More systematic methods of distribution with more adequate means of diversion and storage of flood and winter waters has brought further reclamation. As the evidence in this case, more particularly the various

tables of flow, discloses all of the streams, such as the Snake and the Laramie Rivers, are low during the summer and fall and if that flow alone be depended upon for irrigation, then the area must be limited to very narrow margins. It is not surprising that some individual appropriator or some individual ditch may have experienced a shortage of water. That is to be expected, particularly in view of the fact that some of these witnesses referred to in the plaintiff's supplemental brief admitted that their ditches could not divert water owing to the fact that there are "two-story" (1282-4, 1288-9, 509-13) and referred to conditions in the year 1913, which, according to the Wyoming witness, Meeker, was a year of about 25 per cent more than 50 per cent of normal stream flow on the Laramie River. Moreover, there were very few ditches in the Laramie Plains with adequate means of diversion. These systems were of the most primitive construction. Dams were made as occasion required them, constructed frequently of piled manure, rubbish, brush wood or any other available material. Headgates are testified to as being above the bottom of the river bed. In fact, with the exception of a few of the newer projects, a most primitive system of diversion works could hardly be imagined. So deficient were these diversion works that defendants caused photographs to be taken of each one on the Laramie Plains, with the exception of two or three which could not be found (Exhibit 115). This set of photographs shows more clearly than we can describe the conditions prevailing there.

If Wyoming experienced a shortage of water, it is remarkable that no definite system of distribution by administrative officers has been followed. The situation is well illustrated by a state-

ment made by the witness, M. R. Johnston, superintendent for some time of the Wheatland system. In speaking of the diversion dam by means of which the water is diverted from the river into the tunnel of that system, he said: "We aimed to take about all we could get, except what filtered through. Of course, we had to let some go down when the fellows below on the river 'hollered' too loud, but we aimed to use most of the water. Never knew the water to run over the top of the diversion dam except in cases of water-spouts on one or two or three occasions."

The law of Wyoming, similar to the law of Colorado, provides for an officer termed the State Engineer, who has general jurisdiction of this matter. Immediately under him are the superintendents of irrigation, called Division Engineers in Colorado, and under the superintendents are the water commissioners, who have jurisdiction over the irrigation districts. The plaintiff placed upon the stand Mortimer N. Grant, a witness who had been water commissioner in the district including the Laramie Plains in Wyoming. His testimony appears at pages 1276 to 1289, and was so conclusive of the contentions made by the defendants that the diversion systems in Wyoming were of the most primitive sort and that there was no definite administration of the water there, that this testimony was set out in full in our original brief (pages 95 to 99). It may be summarized as follows: Witness was water commissioner in the year 1913 on the Big and Little Laramies and their tributaries; that complaints were made about water in that year in the latter part of May or the first of June, by The Wyoming Development Company (the owner of the Wheatland Reservoir), and complaints were made about July and August by four or five ranchmen. Considerable

trouble was encountered in distributing the waters of the Little Laramie because of the low flow. During July and August the witness made trips from his headquarters at Laramie, going up the Little Laramie, thence crossing over and down the Big Laramie, making possibly seven round trips. There was one complaint made against Lake Hattie. The witness testifies further that in 1912 a man named Wilson was acting as water commissioner on the Little Laramie. He understood there was a commissioner on the Big Laramie, but didn't know the person; that previous to 1912 there had been water commissioners appointed, but they had "never been out in the field to amount to anything. The water commissioner as a rule only goes out in the field when called." The witness states further that it is the practice all over the State for water commissioners to act only when complaint is made. He describes the inadequacy of the diversion systems and lack of measuring weirs, testifying that the ditches had to be rated with the use of a current meter; that most of the ditches on the Big Laramie River were above the bottom of the stream; in high water they got all the water they needed, at low stages a dam is required. "At such times the user goes to the head and throws some obstruction into the stream to suit his desires," which the high water flow washes out. "On both the Big and Little Laramie rivers it is practically physically impossible for any water commissioner to properly apportion the waters with the appliances that exist at the present time. * * *

Everything is so crude on both rivers that an apportionment according to the legal rights of the parties is practically out of the question, unless one has a current meter to measure it, and then it is a matter of a good deal of labor to try to regulate the water.

ating consumes considerable time and expense. So that for the orderly administration of that water supply the conditions are not there.” Elliott, the superintendent of the Wheatland

Mr. Elliott testified that none of the officers of the State system, testifying had ever interfered with the Wheatland of Wyoming storage or distribution of water (194). Al- in the storage his predecessor, Mr. Johnston testified that though his year 1911 the Wheatland people had been re- in the year 1910 to allow some water to pass their diversion quired to allow it is therefore apparent that if any shortage dam. It is true, it had not been sufficient to arouse of water administrative officers into seriously active duty, the administration brought about the construction of diver- nor had it systems sufficient to permit of definite distri- sion systems bution.

Furthermore, it is not at all surprising that Further these ditches experienced a shortage of some of the water. We are indebted to the plaintiff for tables showing the amount—according to Meeker—stored in various reservoirs. Exhibit K, introduced by the plaintiff, purports to give a resume of stored water in Wheatland Reservoirs numbers 1 and 2, Lake in Wheatland and Lake Hattie in the years 1912 and 1913. James and Hattie was criticized by the defendants in many This table, but it is interesting to note that concerning respects, Hattie, this table states that in 1912, storage Lake Hattie Big Laramie commenced April 8, and ceased from the Big Laramie 5 and December 26, and storage from the October 5 Big Laramie commenced June 4 and ceased August Little Laramie. In other words, this reservoir continued to store water all through the irrigation season. In that same year, 1912, the table shows, concerning Lake James, that storage from the Little Laramie commenced about April 21 and ceased August 3. Now the year 1912 was a year of practically normal flow.

It is the year concerning during which some of the witnesses complained that they were short of water, nevertheless these two large and junior reservoirs continued to store throughout the irrigation season and apparently no complaint was made against them, at any rate, they were not interfered with. In the year 1913, that being the year concerning which Water Commissioner Grant testified, it being a year when the flow of the river was only about 50 per cent of normal, we find from Exhibit K, concerning the Lake Hattie reservoir, that storage from the Big Laramie commenced April 25 and ceased June 13. As to Lake James, that storage commenced April 19 and ceased May 25. Now in the year 1913, it appears that this storage occurred only during the flood season; but no such statement can be made concerning the year 1912. Wheatland Reservoir No. 2 is a channel reservoir; there would, therefore, be no record as to when storage commenced or as to its continuance, and we are given no information concerning the time of storage in either year as to Wheatland Reservoir No. 1. However, Exhibit K states that on April 29, 1913, Wheatland Reservoir No. 2 contained 76,000 acre feet of water. It will be remembered that Meeker, who made the table shown on Exhibit K, contended that Wheatland No. 2 reservoir held only 83,400 acre feet. Apparently the reservoir was filled to a point approaching capacity very early in season of 1913.

Mr. Field, State Engineer of Colorado, reviewed or analyzed at length the various tables and measurements produced by the witnesses for the plaintiff, particularly those of Meeker, concerning or relating to the storage in these four reservoirs (3482, 3489) from which it appears that in the year 1912 there was stored in these four reservoirs *in addition*

to the amount withdrawn for use and in addition to the loss by seepage and evaporation, the total of 156,000 acre feet, divided as follows: Lake James, 18,400 acre feet; Wheatland No. 2, 47,000 acre feet; Wheatland No. 1, 10,500 acre feet; Lake Hattie, 80,700 acre feet. May we emphasize that this represents the amount of water stored in excess of the use, waste and the loss (3488). It is furthermore remarkable to read the testimony of two witnesses, W. L. Ayres and W. A. Baker, farmers on the Wheatland tract, referred to in the plaintiff's supplemental brief at pages 78 and 79, that they were short of water, Ayres testifying: "There have only been one or two years that the farmers had all the water they wanted," and to compare this with the testimony of the superintendent of the Wheatland system, Mr. Elliott, to the effect that in the normal year of 1912, after 100,000 acre feet had been used on that area, 40,000 acre feet of water was left in Reservoir No. 2 at the close of the irrigation season (107). M. R. Johnston testifies to the history of the Wheatland reservoir, describing the threatened destruction of the reservoir at least upon one occasion, through inability to discharge the water from the reservoir as rapidly as it entered, and showing that as a rule water was carried over from one irrigation season to another, although occasionally in dry years the water was all withdrawn (51 to 60).

When we further remember the fact that the Wyoming appropriators annually needlessly waste enormous quantities of water and deliberately run great quantities of water into sunken areas, the only escape from which is evaporation, even during the winter months, it would seem that any claims of shortage are ill-founded (94, 858, 1280-4, 1288, 2733-50, 3562-75).

IV. DUTY OF WATER.

Counsel for plaintiff in their supplemental brief, after discussing what they term the theoretical duty of water, which they contend leads into a maze of opinions, assumptions and surmises, state that they believe "there is a more satisfactory method of determining the adequacy of the water supply of this stream, viz: by showing that in fact the entire flow had been used without waste. This method requires no consideration of stream flow records leading necessarily to an unsatisfactory conclusion, nor any determination of the exact acreage of land irrigated, nor any conclusion as to the theoretical duty of water." Had the testimony shown that the full flow of the stream had been appropriated *without waste* and that there had not been a sufficient amount of water for the irrigation of the Wyoming lands, it might have been of little value to have gone into these so-called theoretical discussions of stream flow and duty of water. However, such is not the case. Enormous quantities are wasted (1280-4, 1288, 2733-50, 3562-76). Lake Hattie, the surveys of which were commenced in the year 1908, that being its date of priority, stored water during the irrigating season of 1912, from both the Big and Little Laramie rivers. Lake James, also dating from 1908, stored water during the whole season of 1912 from the Little Laramie River. That year the managers of the Wheatland system distributed 100,000 acre feet and carried over 40,000 acre feet in their Reservoir No. 2 at the close of the season. As a matter of fact, they did worse than this, for Elliott, the superintendent of the system, testifies that the amount stored in Reservoir No. 2 alone, from the close of irrigation in 1911 to the close of irrigation in 1912, was about 140,000 acre feet (170). They had additional storage in Reser-

voir No. 1, and some suply from Sybille and Blue Grass creeks. Adopting the language of the former superintendent, M. R. Johnston, it was their habit to divert all the water from the Laramie River unless the appropriators below "hollered too loud."

Manifestly all the water of the stream was not appropriated to beneficial use, therefore the so-called theoretical duty of water becomes of intense interest. As we said in our original brief, we cannot attempt an exact definition of the term, "duty of water," except that it defines the amount of land which a given quantity of water should reasonably irrigate, and the higher the duty, the less amount of water needed for the unit of area. The term is frequently used to specify the amount of water which is used, rather than the amount which is needed. From the statutes of the State of Wyoming, it is apparent that the law making body of that State intended to place a limit upon the amount which might be diverted from the stream, and for that purpose the maximum quantity which might be diverted was fixed, this being designed to supply the needs of lands under the most adverse conditions within the State. This statute provides that no allotment for irrigation shall exceed one cubic foot per second for each 70 acres of land irrigated. Revised Statutes of Wyoming, § 872. This statute of course specifies a maximum of flow rather than a definite quantity, but taking into consideration the irrigation season, the maximum quantity permitted under this statute may be determined. Considering the Wheatland tract, M. R. Johnston, formerly superintendent, stated that the irrigation season was from 90 to 100 days (91). The demand was not constant, but fluctuates during the season, as the water is required for different crops, there being at times short periods when no water is

needed at all by the individual farmer, the average farmer drawing water from 80 to 85 per cent of the time during the irrigation season (201, 203), the greatest demand being during the latter part of June (208), the quantity required diminishing until the 15th of August, after which time two "runs" are made (209). It therefore is obvious that the Wheatland tract does not require the maximum amount of water permitted by the law of Wyoming for the full period of the irrigation season. However, let us consider this question of the amount of water applied to these lands upon the assumption that there is a legitimate demand for one cubic foot of water for each 70 acres of land within the tract without diminution during a 90 day period. This would amount to approximately 180 acre feet of water for each 70 acres of land. The Wyoming witness, Mr. Elliott, first testified to 33,000 acres in round numbers under irrigation in the Wheatland and Bordeaux tracts. On this basis the total amount of water for this 33,000 acres of land, which might be legitimately distributed if conditions imperatively demanded it, would be, in round numbers, 85,000 acre feet, and yet, in the face of the contention that there was a shortage of water testified to by a few individual farmers produced as witnesses for the plaintiff (but see *contra* 205), the evidence discloses that there was distributed to the Wheatland tract 100,000 acre feet that year, or 15,000 acre feet more than the law of Wyoming permitted under the most adverse conditions—conditions demanding the highest amount of water—conditions which it cannot and will not be contended prevail in the Wheatland area. As a matter of fact, if the demand for water exists for only 80 to 85 per cent of the time covered by the irrigation season, and even then the demand is for quantities varying according to the needs of the crops, it is

readily seen that the Wheatland area in the year 1912 must have received an amount very much larger than 15,000 acre feet above the amount which could legitimately have been applied. However, for the sake of the argument, conceding them the maximum amount and contending for only 15,000 acre feet in excess of what they might have used, we find that they carried over in the reservoir at the close of the irrigation season of 1912, 40,000 acre feet of water, these two items making a total of 55,000 acre feet, substantially the same amount that it is sought to divert through the Greeley-Poudre tunnel.

As a matter of fact, there are only 28,623.75 acres irrigated in the Wheatland tracts, instead of 33,000, which we have assumed (195). Our illustration, therefore, is more than generous to the plaintiff. And Mr. Elliott testified: "I have ordered several farmers there to quit wasting water" (205).

In considering the flow of the streams, Mr. Meeker, the Wyoming hydrographer, attempted to show a distribution of the water from the Big and Little Laramies (see Exhibits T-7, T-8, at pages 1260, 1261). Considering first the Little Laramie, according to the table Exhibit T-8, there was distributed to "ditches between No. 2 dam and Two Rivers 17,245 acre feet" in the year 1912. No. 2 dam on the Little Laramie is the diversion point for water from that stream to Lake Hattie. Two Rivers is the junction of the Big and Little Laramie rivers. According to the survey made by the defendants, there are 31,341 acres irrigated between these two points. According to Wyoming, the area is larger. Now if Meeker be correct in his statements concerning stream flow, and also that only 17,245 acre feet were used in the year 1912 for the irrigation of this area of land, of which the least amount testified to was 31,341 acres,

he shows distribution amounting to only .55 acre feet per acre for the irrigation, by flooding, of an area devoted almost entirely to native hay meadows. This is so palpably an error that it scarcely needs discussion. The evaporation alone would probably not be accounted for by the .55 acre feet. It must be remembered that these meadows were irrigated, as described by the witness Grant and others, not by the use of distributing laterals, but largely by the construction of dams in such a manner as to cause "copious flooding."

Passing for a moment to the consideration of the Big Laramie, in Exhibit T-7, Meeker states that there was distributed to the Pioneer Canal in 1912, 17,703 acre feet. He also testified that there was under this canal 11,556 acres. Our survey determined 10,605. Therefore, if his stream flow measurements be correct and his distribution also correct, we find that there was applied to the lands under the Pioneer canal, which are also largely native hay meadows where the method of irrigation is substantially the same as on the Little Laramie, 1.6 acre feet per acre.

This discrepancy is remarkable. Obviously he is in error somewhere, and the contention of plaintiff throughout this whole case has been that water was applied to these hay meadows to an unnecessary amount. But Mr. Meeker found only so much water flowing in the stream. According to his measurements, the big channel reservoir lower down, Wheatland Reservoir No. 2, intercepted all the flow at that point. It had been more than filled in the year 1912, and Meeker must of necessity, when he attempted to show the distribution of this water, keep the amount distributed down to the amount which his stream measurements disclose, or otherwise all his measure-

ments would be worthless. Therefore, not only does he contend that Wheatland Reservoir No. 2 has a capacity of only 83,400 acre feet, as against the amount of 126,000 disclosed by the survey thereof, but he reduces the amount which he states is distributed to these lands under irrigation on the Little Laramie River to a quantity^d which is ridiculously low. It is only, therefore, natural that there should be a lack of consistency when his figures are analyzed. If the duty of water on the Little Laramie is only about .55 of an acre foot per acre, why, under exactly similar conditions, should it be 1.6 on the Big Laramie, and why should the Wheatland people, as Elliott testifies, receive from 2.6 to 2.7 acre feet per acre? Let us cite Mecker's conclusions concerning the duty of water, even in the face of his previous figures. He testifies: "From my records and experience, the duty of water diverted from the Laramie River between the Pioneer dam and Two Rivers stations is approximately one acre foot per acre. This includes copious flooding of the meadow lands and irrigation of the pasture land adjacent to the river, If all the lands irrigated between these stations were included, the duty of water would be higher" (4317). A higher duty means less water. Concerning the lands on the Little Laramie, he also placed the duty of water at one acre foot per acre. This particular testimony was by error, omitted from the abstract. We therefore take the liberty of quoting from the original transcript (4320):

"Q. I neglected to ask you if you could state approximately the duty of water realized between Lake Hattie No. 2 dam on the Little Laramie and Two Rivers? A. That is also approximately one acre foot per acre per annum.

Q. Is the general character of the irrigated crops grown there similar to that in the Big Laramie valley? A. Yes, sir.

Q. Including meadow lands and irrigated pasture? A. Yes, sir, and on account of the copious application and large return waters, there is also a large re-use of water between the two points, which accounts for the high duty.

Q. What can you say of the relative rapidity of the return flow in that portion of the stream? A. That is also very rapid."

Here again we find that his conclusions are at material variance with the statements contained in his table. But accepting his conclusion that the duty of water on the Laramie Plains is one acre foot per acre, and also accepting his conclusions which are adopted by the plaintiff in its supplemental brief on page 115, that the average annual flow of the Laramie River is not to exceed 200,000 acre feet, and the average annual flow of the Little Laramie 100,000 acre feet, and also accepting, for the sake of argument alone, the further statement that these two sources constitute the entire supply of water available for the irrigation of the Wyoming land claimed to be irrigated, we find that there is a total of 310,000 acre feet of water, with a duty of water of one acre foot per acre, or a sufficient amount on this basis to irrigate 310,000 acres of land. And yet Wyoming contends for a total of 152,097 acres irrigated, including all of the irrigated lands on the Laramie River supplied with water not only from the Big and Little Laramies, but also from the tributary streams, and including also the total amount under irrigation in the Wheatland tract.

When the evidence is analyzed, where is there anything upon which Wyoming can stand, assuming that her own testimony concerning the supply is correct, and also that her claims concerning the amount of land irrigated are correct?

Under this state of facts the defendants are most certainly entitled to a dismissal, because Wyoming, the plaintiff in this case, has failed to show any damage whatsoever or any threatened damage, because of the diversions now made and those proposed to be made by the State of Colorado and its citizens.

Referring briefly to the conclusions of Mr. Field concerning the flow of the streams, to the effect that the normal flow of the Big Laramie at the state line is in excess of 250,000 acre feet and that the total amount of flow in the river available for the irrigation of all lands down to and including the Wheatland tracts was 431,200 acre feet, and applying Meeker's duty of water, there is enough for 431,200 acres of land, from which, if we deduct the 56,000 acre feet per annum proposed to be diverted by the Greeley-Poudre tunnel, or even deducting the total amount in contemplation through this system, 71,000 acre feet, there remains a sufficient amount of water for the irrigation of 360,200 acres of land. If we apply Professor Carpenter's conclusions as to stream flow, then this amount is increased even more and after the deduction of the amount proposed to be taken by Colorado, there would remain, for Wyoming, water for the irrigation of more than 400,000 acres.

Let us revert again to Meeker's conclusions. His testimony concerning the duty of water was as to the Laramie Plains only. Now if it be contended that the duty of water is lower on the Wheatland tract, let us deduct for the irrigation of that tract the

amount which, which they might possibly contend is legitimate, it being the maximum amount permitted by the laws of Wyoming, that is, 85,000 acre feet. We then have, according to Meeker's figures, water enough in the Big and Little Laramie rivers alone for the irrigation of 225,000 acres of land under a duty of water of one acre foot per acre.

In accepting the plaintiff's testimony of stream flow, etc., we do so solely for the sake of argument, contending that our evidence in this regard is of higher value than that of plaintiff, but we submit that even under plaintiff's own testimony, it has failed to sustain the burden of proof. On the contrary, it has shown that no damage whatsoever can result to it by reason of the diversions of which complaint is made.

In view of the condition disclosed by this witness, is it at all surprising that the State Engineer of Wyoming has issued permits for the construction of the systems designed to divert a vast amount of additional water from the Laramie River and its tributaries in Wyoming? (See table, p. 228, Vol. II, defts. orig. brief.) Apparently he was justified in so doing, although counsel for the plaintiff, in their supplemental brief, devote a chapter commencing on page 221, to an attempt to explain these permits or possibly to excuse the action of the State Engineer. (But see *contra*, pp. 191 to 231, incl., Vol. II, defts. orig. brief.)

Plaintiff lays great stress upon a contention that Colorado's whole defense depends upon her right to compel prior Wyoming appropriators to construct reservoirs. We do contend that Wyoming has no right to complain of the beneficial application of water within the State of Colorado so long as she

has an abundant supply for her own use either from the direct flow of the stream or from that and water stored in reservoirs. If necessary, although it is not at all clear that such is the case, Wyoming, we contend, should, so far as is practical, conserve her flood and winter waters and cease her enormous needless waste before making complaint of a beneficial application in Colorado.

V. CONTRAST IN AREAS.

It is claimed by plaintiff, however, that the value of the product from irrigation in California, for illustration, justifies expenditures for the conservation and distribution of water, which would clearly not be justified by the value of the hay raised upon the ranches upon the Laramie Plains.

This introduces the further contention of the defendants, that even though there should be a question as to the adequacy of water supply, that the doubt must be resolved in favor of the State of Colorado, if for no other reason than that the returns obtained from the application of water in the Poudre valley amounts in value to from five to ten times what it will be if this water were applied upon the Laramie Plains. To this end, we went to exhaustive lengths to show the character of the development now reached upon lands under irrigation in the Laramie Plains and in the Poudre valley and the results based upon experience in each area to be expected from the application of the water from the Laramie River to the lands of the Greeley-Poudre district, in contrast to the returns to be expected from lands under irrigation upon the Laramie Plains. May we most urgently request a consideration of this discussion under the head of "Comparison of Areas," commencing on page 99, volume 1 of our original

brief. We produced this evidence and numerous exhibits were introduced, in order to give to the Court a clear idea of the contrast between these two areas. (See *Bailey*, 2575-2612; *Heidke*, 1727, 1780-2; *Edwards*, 2190-2204, 2232-2236; *Timothy*, 2341-72; *House*, 2388-2453; *Gardner*, 2916-30; *Carpenter*, 2931-91; *Field*, 3046-76; *Parker*, 3095-3112; *Ewing*, 3113-27; *Mattox*, 3172-77; *McCreery*, 3178-98; *Rothchild*, 3198-3219; *Drake*, 3220-37; *McClelland*, 3238-51; *Baxter*, 3252-66; *Watrous*, 3268-74; *Gillette*, 3278-98; *Hottel*, 3298-3304; *Petrik*, 3305-33; 3580-87; *Link*, 3375-86; and *Officer*, 3511-26.)

To review this evidence would be merely to make a restatement of our former brief in this regard. Suffice it to say that every phase of agricultural development in the areas under consideration was considered in the testimony. Comparisons of census reports for many decades were tabulated or diagrammed in order to show the rapid development in the Poudre valley and the relative absence of development on the Laramie Plains (*House*, 2388-2453). Meteorological reports were resorted to, statistics of all kinds relating to agricultural products were introduced; photographs of development on the Laramie Plains showing the character of improvements (*Deft's. Ex. 115 and 116—albums*), were introduced in contrast with similar photographs taken in the Poudre valley (*Gardner*, 2916-30, *Deft's. Ex. 119, 120 and 121*), and the testimony of many experts given, of whom probably the most notable is *Dr. L. H. Bailey* of Ithaca, New York, whose testimony will be found in the transcript at pages 2575 to 2615, inclusive. *Dr. Bailey's* testimony was procured because of his eminent standing as an agriculturist and his lack of interest in the outcome of this case. He testified that the two areas were to be contrasted,

rather than covered (2584), and in substance that the Poudre valley is an area of remarkable agricultural development capable of supporting many times the population which can be supported by the Laramie Plains, which is primarily a livestock producing area and, because of the severity of the climate present, a very interesting experiment in agriculture; but its possibilities are limited to the growth of hardier crops and that it will develop further as a grazing and to some extent as a farming region with such accompanying forage as can be grown with profit. Concluding, he says as follows:

“To sum up the principal reasons why the Poudre valley area is, in my judgment, much superior to the Laramie Plains as an agricultural region, I do not do more than practically repeat the content I have already made in my testimony. I feel that the development that is in the General Greeley District is one acre and to produce more value per maintenance diversity in cropping, to more rugged rural population and rural industries founded on agricultural. These are the fundamental reasons for the development, as I have already indicated, which are soil and climate, is difficult, for the reason that it is to overcome climate, but it is possible to overcome some difficulties in soil. In other words, I should regard the farming as a more important controlling factor in soil, other things being in it as such that crops can grow

The testimony of this witness is very significant in view of the constant contention made by the defendants that the Laramie Plains area, although earlier in settlement than the Poudre valley, was still undeveloped except as a stock-raising country, and that the irrigation upon that area was devoted almost entirely to the production of native hay; whereas, on the other hand, the Poudre valley is an area producing crops of very high value, such as sugar beets, potatoes, fruit, vegetables of all sorts, alfalfa and small grains.

We have previously referred to two tables showing the classification of irrigated lands covered by the surveys made by the defendants of the Laramie Plains areas, exhibit 117 pertaining to the lands on the Little Laramie and 118 on the Big Laramie in Wyoming. The classification of these areas, together with the number of acres devoted to the various purposes according to these two exhibits, may be summarized as follows:

Meadow (native hay)	39,732.9 acres
Pasture (irrigated)	12,737.8 acres
Alfalfa	1,659.0 acres
Oats	2,150.6 acres
Other grains	268.9 acres
Potatoes	37.4 acres
Garden	19.6 acres
Flax	19.0 acres
Plowed ground	3,095.1 acres

The testimony of witness E. B. House, professor of civil and irrigation engineering at the State Agricultural College of Colorado, is also very interesting, inasmuch as it is directed to a review of the census reports for the decades from 1870 to 1910, inclusive, and also to a consideration of the meteorological re-

ports showing the temperatures at Greeley, Colorado, and Laramie City, Wyoming, for two decades, 1893 to 1902, inclusive, and 1903 to 1912, inclusive. Comparison of the areas as to population, production, etc., based upon census reports, is shown by charts, Exhibits 86 to 104, inclusive. The meteorological reports are summarized on the diagram Exhibit 105, from which it appears that the average number of days in the season above frost, based upon the records of twenty years, is 125.5 days at Greeley and 57.6 at Laramie. The testimony of Professor House appears at pages 2388 to 2453, inclusive.

It is almost impossible to attempt to review all of the evidence introduced to show the high state of development in the Poudre valley, particularly the potato industry (3095-3112, 3178-98, 3198-3219); the production of sugar from sugar beets and the feeding of livestock (Petrikin, 3305-33, 3580-87; Timothy, 2341-72; Drake, 3220-37, and McCreery, 3189-94); production from market gardens and orchards (3185-88; 3172-77; 3238-51; 3252-66; 3238-51); the material improvements, such as railroads, public buildings and institutions, towns and cities, and all of the other things which prove a highly prosperous district.

Aside from the verbal testimony introduced for this purpose, photographs were taken, to a portion of which we wish especially to draw attention: Exhibits 119 and 120 are albums containing photographs of the improvements under the Larimer County Canal and under the Larimer and Weld Canal in the Poudre valley. The development under these canals is typical of the area. Moreover, the Larimer and Weld Canal dates from the year 1879, the same year in which the Pioneer canal on the Laramie Plains was constructed. The Larimer County Canal is two years

later. Contrast these with the development shown by the photographs in Exhibit 116, which is an album containing pictures of the farm and ranch improvements on the Laramie Plains in Wyoming, and note also the contrast shown by some large panoramic photographs of the Wheatland and Laramie Plains areas upon one hand and of the Poudre valley on the other, shown in Exhibit 122.

As will be seen from a glance at the map, Exhibit 1 attached to the answer of The Greeley-Poudre Irrigation District, the lands within that district lie immediately adjacent to those now under development in the Poudre valley, and it is to be expected that with irrigation, the same development will result when the lands of this district are reclaimed. The evidence proved that, without any exaggeration, the returns from the use of water in the Poudre valley were actually from five to ten times the returns from lands under irrigation on the Laramie Plains (1782, 2967). The reason for this difference is obvious (2938, 2965). The average elevation of the Poudre valley is between 4,500 and 5,000 feet above sea level. The average elevation of the Laramie Plains is about 7,100 feet. Doctor Bailey testified that for the sake of comparison elevation can be projected into latitude. That if this be done, the Laramie Plains area might be compared to a point in the general latitude of Edmonton, Alberta, except that the Laramie Plains lacks the greater length of day which prevails in the northern latitude (2598; see also 2965). Eliminating a discussion of properties of soil in the two areas (2596-7, 2937-8), it is obvious that the lack of development in the Laramie Plains along lines of agriculture is due to adverse climatic conditions which cannot be overcome, and that its development along these lines is limited, so much so

that their development commencing at a date earlier than the settlement of the Poudre valley (2598-2601, 2937-44), shows today an area devoted almost entirely to the production of live stock and agriculture connected therewith, that is, the production of native hay. It is remarkable that of the 31,341 acres classified in Exhibit 117, 22,081 acres are devoted to meadow land producing native hay, 5,801 acres irrigated pasture and only 219 acres to alfalfa, 1,319 acres to oats, and a mere nominal amount to other crops; and of the lands classified in Exhibit 118 a total of 29,279.3, 17,651.9 acres are meadow or native hay lands, 6,936.8 acres irrigated pasture, and only 1,440 acres were devoted to alfalfa, 831.8 acres to oats and a mere nominal amount to other crops.

The Wheatland area, lying at an average elevation of about 4,700 feet, should become more of a normal agricultural district. The development already made there is an indication of what may be expected and we make no contention that this area is other than normal for irrigated lands of similar altitude and latitude.

VI. THE PRIORITIES OF APPROPRIATION.

In view of the language in the second paragraph of the order restoring this case to the docket, it becomes necessary to consider the relative priorities on the Laramie River in Wyoming and in Colorado.

Volume II, pp. 132 to 256, inclusive, of the original brief filed by defendants, contains an exhaustive discussion of the facts and evidence concerning the relative priorities of the Greeley-Poudre enterprise here in question and the subsequent large and junior enterprises for which permits have been granted in Wyoming, a part of which have been completed to a greater or less degree, notably The Laramie Water

Company's system (Lake Hattie, etc.); the James Lake system; enlargement of the Wheatland system; the enlargement to King ditch; Sodergreen Highline and others of minor importance, and we respectfully refer to that portion of our original brief to avoid repetition of the discussion there appearing.

The decree of the District Court of Colorado adjudicating the priority of the Greeley-Poudre enterprise, including its several units, was offered in evidence as defendant's Exhibit No. 179 (3933). The table appearing in this decree also contains reference to certain other small ditches along the Laramie valley which were adjudicated in that decree. This, however, was a decree obtained upon a supplemental adjudication. The decrees of the District Court of Colorado for the former adjudications fixing the priorities of canals and reservoirs earlier in date than those appearing in Exhibit 179 were not offered in evidence by either party.

(1) **The Colorado Diversions.**

We have previously shown that a survey of the lands within the Laramie River valley in Colorado under irrigation amounts to a total of only 4,250 acres (3459). These lands consist of narrow strips of native hay meadow along the river or its tributaries irrigated by means of a number of small ditches, the diversions taking the water a short distance from the stream. The land irrigated, according to the Wyoming engineer, Whiting, who made a survey of the course of a few of these ditches (p. 1265 of record—not in abstract), generally extended from 500 to 600 feet from the stream, some of the ditches reaching a distance of approximately 1,200 feet away from the stream (1266, 1275). See also the plat of this irrigated area made by the engineer Wortham on behalf

of the defendants, Exhibit 130, and the testimony of Wortham (3454-3462). No complaint is made against the diversion by these ditches, neither is complaint made of the diversions by means of the Skyline canal, nor the Divide or Wilson Supply canal. We shall therefore first consider briefly the priorities of these appropriations.

Fourteen out of the many ditches used for the irrigation of these 4,250 acres of land in the Laramie River valley in Colorado and the dates of construction thereof are given at abstract pages 3334 to 3336 and may be summarized as follows:

Name of Ditch.	Date of Construction.
Long Park No. 1.....	1902
Link Ditch No. 1.....	1894
Link Ditch No. 2.....	1896
Hills Ditch	about 1880
Yelton Ditch	1880 or 1882
Upper Smith-Brown Ditch.....	1879
Lower Smith-Brown Ditch.....	1880 or 1881
Comet Ditch	1895
Homestead Ditch	about 1884
Mansfield Ditch No. 1.....	about 1882
Mansfield Ditch No. 2.....	about 1878 or 1880
Bliler & Boswell Ditch.....	prior to 1880
Warren Ditch	about 1880
Stuck Creek Ditch.....	1881

These are a sample of the meadow ditches in the narrow Colorado valley. The land irrigated by means of these ditches is devoted to the production of native hay. The water is applied plentifully and because of the proximity of the lands to the stream and the heavy slope, there is a constant return flow from the lands irrigated back into the stream. The irrigation season commences from the first to the

15th of May and continues until about the middle of July (3336, 3342). Exactly the same conditions prevail on the upper reaches of the Little Laramie valley in Wyoming, that being the area on the stream above Filmore, the station at which measurements were taken (1110, 3314). As we have previously stated, neither of the parties to this cause attempted to make any charge for the amount of water diverted from either stream for the irrigation of these mountain meadows. The more recent of these appropriations in Colorado as adjudicated by the District Court of the State of Colorado in and for the County of Larimer are set forth in the decree, defts. Ex. 179 (3393). We do not contend that this decree is any more binding upon the plaintiff in this case than are the decrees of their Court on us, but we wish the Court to understand the status of these and other ditches and that the appropriations made by means of them have been judicially determined by the courts of the State of Colorado.

We next desire to consider the Skyline canal and the Divide or Wilson Supply ditch, these being the two ditches through which for a number of years diversions had been made from the Laramie River for use in the Poudre valley, and which the defendants admit will divert about 20,000 acre feet per annum on the average. This we have previously explained. These two ditches are not specifically complained of in this proceeding. The construction of the Skyline canal was commenced in the year 1891 and completed in 1893 (2206). It has a carrying capacity at its lower end of 130 cubic feet per second (2209). This appropriation has also been adjudicated in Colorado.

The date of construction of the Divide or Wilson Supply canal does not seem to have been definitely fixed in the record. However, according to the table,

Exhibit 124, this ditch is credited with water in the Poudre in the year 1902 and subsequent years. It is obvious, therefore, that the work of construction was completed prior to that year.

The decree of the District Court in and for Larimer County, in which these priorities were adjudicated, was not introduced in evidence. However, a later decree including the diversions made by the Greeley-Poudre system (Exhibit 179), shows that this decree, so offered in evidence, commenced with priority No. 65; that priorities numbered 1 to 64 have been covered by the previous decrees on the Laramie River, the appropriations being made in part by the ditches hereinbefore mentioned. It must not be understood, however, that this means there were 65 ditches. A number of the ditches had several decrees, arising by reason of enlargements after original construction. Each enlargement is a new and separate appropriation and takes its junior priority.

The evidence upon which the foregoing discussion is based defines the limits of the beneficial use to which the Laramie River had been put in Colorado prior to the inception of the Greeley-Poudre system, and may be summarized as follows: Through a number of ditches diverting water from the Laramie River there was irrigated in Colorado 4,250 acres of land, all of which lie immediately adjacent to the stream or the tributaries from which the appropriations were made, and was devoted to the production of native hay. From these lands there was a very rapid return to the stream. The amount thus used has not been taken into consideration in any stream measurement. And, secondly, there was actually diverted from the Laramie River watershed by means of the Skyline canal, constructed in 1891, an amount

which will average 16,000 acre feet per annum, and through the Divide or Wilson Supply Canal, constructed prior to 1902, an amount which will average 4,000 acre feet per annum.

(2) The Wyoming Diversions.

As we have previously stated, no evidence was introduced from which a clear line of demarcation can be drawn between the development prior to August 25, 1902, and after that date; nor during a period prior to May 29, 1911, or after that date. These two dates are the dates of the commencement of the Colorado construction complained of and the date of the inception of this suit, respectively. We did, as we have stated, attempt to determine the total amount of land under irrigation in Wyoming, but we are unable at this time to make a definite statement as to the amount of land which was reclaimed by irrigation from the older ditches, or the amount reclaimed by irrigation by the newer projects, except as the same is reviewed in the supplemental brief of the plaintiff wherein, under the heading "The Contested Priorities," the newer projects in Wyoming are discussed.

Omitting a few small ditches, the newer projects in Wyoming now constructed or substantially constructed, include the Bordeaux and Sybille units of the Wheatland tracts; the Lake Hattie system; the Lake James system; the Hutton Lakes system; and the Sodergreen Highline. In addition to these there are many others of immense size for which permits have been issued, but on which no material work of construction had been done at the time the evidence was taken. (See table, Vol. II, p. 228, defts. orig. brief.) We will discuss these projects in the order in which they are mentioned.

(a) *Wheatland Project.*

The original Wheatland tract, consisting of 60,000 acres, is reclaimed to the extent of 29,000 acres. This project dates from the year 1884. It appears from the testimony that at a time when only a very small percentage of the lands of the tract were under irrigation, storage facilities were provided by the Wyoming Development Company, the projectors of this system, who began the construction of Reservoir No. 1 and Reservoir No. 2. Reservoir No. 1 having a capacity of 7,000 acre feet, and Reservoir No. 2 a capacity of 126,000 acre feet. In addition to this storage, they have the direct flow of the Laramie River, through their inter-mountain tunnel, and of the Sybille and Blue Grass creeks, for the irrigation of this tract. Reservoir No. 2 was completed about 1900. It is significant that according to the witness, M. R. Johnston, there was only about 10,000 acres of land under irrigation in the Wheatland tract in 1900, and yet they had a storage capacity in these reservoirs, in addition to the direct flow of the river, to the amount of 133,000 acre feet. It is not surprising, therefore, that an attempt was made to find additional land upon which to put the surplus water available. Accordingly the Sybille and Bordeaux tracts were projected. They are what is generally known as "Carey Act" lands. The Bordeaux tract consists of 10,000 acres and the Sybille tract 30,000 acres (168-169). The ditches for the irrigation of these new tracts were an extension of the main system designed for the irrigation of the original Wheatland tract and a new canal from Blue Grass Creek (40), although the surveys for the ditches leading to the Bordeaux tract were commenced in February of 1904, construction work began in June, 1907, and for the system leading to the Sybille tract, the

surveys commenced in August, 1907 and construction work began in July, 1910 (108). When the evidence was taken, there was under irrigation in the Bordeaux tract, according to the plaintiff, only 1,004 acres (168), but the defendants' survey disclosed only 451 acres (Exhibit 2). The ditch leading to the Sybille tract was not completed when testimony was taken in 1913, and no land was irrigated in that tract (169). It is quite obvious that these two new projects resulted from the fact that the owners of the original Wheatland system found themselves in the possession of more water available in their reservoirs than was needed on the original tract. The Sybille and Bordeaux projects were an after-thought arising because of this condition. They were not in contemplation by the Wyoming Development Company at the time of the construction of the big Wheatland Reservoir No. 2, and do not relate back to the date of that reservoir, and much less to any date prior to that time. The witness, M. R. Johnston, testified that the Bordeaux tract was conceived for development somewhere about 1908 or 1909 and the Sybille or Cooney Hill tract some two years later (41), and that these two tracts were not in contemplation when he took charge of the system as superintendent in 1888 nor when the Reservoir No. 2 was constructed in 1900 (42).

(b) *Lake Hattie System.*

The next project, the Lake Hattie system which the plaintiff in its supplemental brief describes as consisting of the Lake Hattie inlet ditch takes water from the Big Laramie and Little Laramie rivers and consists in part of the Stewart ditch (being the inlet taking water from the Little Laramie), the Lake Hattie reservoir and the outlet canal with its

two branches, the North and South Canals. During the taking of the testimony, reference was made from time to time to various disconnected and random surveys made for various lines of a ditch to take water from the Laramie River, one or two of which were in the general vicinity of the line of the Lake Hattie inlet and the outlet canal from Lake Hattie. No construction had followed any of these surveys and they were abandoned. One of these suggested ditches was referred to as a possible Pioneer Highline canal, and in the original brief of plaintiff herein, an attempt was made to fix the date of the priority of the Lake Hattie system back to the date of some one or other of these old surveys known as the Loback and Belamy surveys, made in the year 1886. (See page 76 plaintiff's original brief.) This contention, however, was not tenable, the evidence disclosing that there was absolutely no relationship between the old random surveys and the very recent surveys upon which the Lake Hattie system was constructed. (See Vol. II, pp. 234-53, defendant's original brief.) However, in order that there might be no possible misunderstanding concerning this, the defendants took great pains to review the evidence relating to these old surveys and the Lake Hattie system. Among other things it was shown that the Lake Hattie system was based upon the surveys commencing April 16, 1908 (646, 774) and not earlier, and that construction was based entirely upon permits issued by the State Engineer of the State of Wyoming between April 21, 1908, and July 11, 1912. (See defendants' Exhibits 159 to 167, inclusive; also the evidence of Ralph I. Meeker to the effect that these were the permits upon which the system was constructed, 1070, 1071). While it is true that the Lake Hattie system (but not any Pio-

neer Highline canal) was practically completed at the time evidence was introduced, nevertheless, there can be no serious contention for a date earlier than April 21, 1908, and we believe the claim to have been waived by the plaintiff, inasmuch as in their supplemental brief they state in substance that some such diversion as this from the Big Laramie River was in contemplation as early as 1884, "so that if the taking of thought, the making of intermittent surveys, the search for capital and capitalists and other activities incident to promotions may be considered such diligent prosecution of the work of construction as would entitle the promoters to the benefit of the doctrine of relation, the Lake Hattie enterprise might be considered to date from 1884."

"In the view of the plaintiff, however, these historic particulars are only valuable to show the connection between the works of the Lake Hattie system, as finally realized, and the original Pioneer canal enterprise projected and constructed in 1879 and the following years, * * * For the present we are considering this new work only as originating in the beginning of construction in July, 1909, in competition for priority with the Tunnel Project on which construction was actually begun near the end of that year."

There would seem to be no doubt whatsoever, and we believe that it will not be seriously contended, that the earliest date to which the Lake Hattie system is entitled is the date of its initial survey, April 16, 1908, evidenced by the permit issued thereupon by the State Engineer on April 21, 1908 and not the date when actual construction began in 1909. May we earnestly ask a consideration of the discussion concerning the permits relating to this system and to other systems in our original brief (Vol. II, pp. 198, 255).

We are unable to state the amount of land which it was contemplated to reclaim by this system. If the evidence discloses this amount, we are unaware of it. On page 39 of the supplemental brief of plaintiff, it is said that about 700 acres of new land were irrigated from this system in 1913. We have previously discussed the evidence showing the enormous quantities of water which have been stored in this reservoir prior to 1913. We are informed that the first water was taken from the reservoir early in July, 1911. Plaintiff's Exhibit K purports to give the amount stored during 1912 and 1913. If there were only 700 acres of new land irrigated from this system, we are interested in knowing what became of the water which was withdrawn from the reservoir. These defendants contended throughout the trial of this case that this water was merely wasted and that vast quantities of it were permitted to run through one of the distributing canals into a large depression known as Big Basin and into other waste lakes, from all of which there was no outlet. This contention was confirmed in part by the testimony of the water commissioner, Grant, who testified concerning this reservoir:

"I did not know that they were running water out of Lake Hattie and wasting it into Big Basin until about the first of September. The only time I knew of their running water down into Alkali Lake or Alkali Basin was when they tried out the canal once or twice. It only ran for a day or so at that time. I heard that at a later time when Mr. Goldsborough had some prospective land buyers out there, he ran water for several days and wasted it into Big Basin. I did not go to look it up. I think there was consider-

able water left in Lake Hattie when I resigned, about September 15." (1286)

Defendants' contention in this regard was denied by the plaintiff, except that it was admitted that in testing the canal, some water was run through it and into one of the waste basins. It is interesting to surmise what became of the balance. May we again state that the total capacity of the reservoir is 110,500 acre feet, of which 62,500 acre feet are available (786-787).

(c) *Lake James System.*

Lake James, as has been previously explained, has an available capacity of 41,100 acre feet. It is filled from the Little Laramie, Seven Mile and Four Mile creeks. This system was initiated by survey begun March 22, 1908 (638). Several permits were issued for the construction of this system, the earliest being March 27, 1908 (3962). This reservoir had stored water for several years prior to 1913, although the evidence fails to disclose that any land had been reclaimed under it. On page 40 of the supplemental brief of the plaintiff, where this system is discussed, it is said: "Some 1,500 acres had been irrigated under this system, of which 515 acres were in tillage in 1913." Again it is of interest to ask what became of the vast amount of water which had been stored in this reservoir? It was admitted that unused water in lakes on the Laramie Plains evaporated at the rate of five feet in depth per year.

(d) *The Hutton Lakes System.*

We have previously explained in this brief that the water of Sand Creek has been heretofore diverted from its channel and permitted to flow into Hut-

ton Lakes, a natural basin from which there was no outlet. As we understand it, Hutton Lakes consist of two lakes, Hutton Lake and Creighton Lake. The names are sometimes used interchangeably. It seems that it was recently proposed to utilize these lakes as reservoirs by a company known as The Northwestern Land & Iron Company, the plan being to enlarge and extend the old King ditch, diverting water from the Laramie River, to build a flume or syphon across the bed of Sand Creek, and thus to utilize these lakes. The date of the surveys is not definitely shown. The plaintiff throughout the case appeared to evince very slight interest in this project, and no evidence is given as to the amount of land which it was proposed to irrigate by means of this new system. However, applications were filed in the office of the state engineer on June 3, 1909, on which permits were issued Oct. 17, 1909 (3961). The ditch, however, had never been completed, in that the flume or syphon across Sand Creek remained to be constructed and additional work upon the reservoir was yet to be done (322). In discussing this project (p. 39 of the supplemental brief) the plaintiff does not contend that any of the land whatsoever has been reclaimed by means of the system.

(e) *The Sodergreen Highline Ditch.*

Before discussing this ditch we desire to reiterate a former statement. This ditch diverts water from the Laramie River above the Pioneer dam, where measurements of stream flow were made by Mr. Meeker, the Wyoming hydrographer, who made no allowance for the amount diverted by this canal or other ditches in the same locality, when his measurements of the stream flow were discussed. The survey was commenced in November, 1907, and con-

struction was completed during the year 1910 (418-445). The permit for construction was issued April 14, 1908 (3960). The owner of the ditch, Oscar Sodergreen, testified that from four to five thousand acres of land had been irrigated by means of it (418). Some doubt, however, is cast upon these figures by further testimony of this witness at page 446, wherein he describes the irrigation under this ditch and says: "I don't know how much has been irrigated; all that I could. These lands lie in a regular natural slope, and it irrigates by just turning the water out of the ditch at intervals. It was raw prairie land. The greatest part is hay land now."

(f) *General Discussion Junior Wyoming Projects.*

These six projects, that is, the Bordeaux tract, Sybille tract, Lake Hattie system, Lake James system, Hutton Lake system and the Sodergreen Highline, seem to have been singled out from a great number of projects covered by surveys and filings made subsequent to the year 1902, probably because they were either completed or a material amount of construction work had been done upon them, and they take a position as more or less definitely fixed, because of that construction work. However, it must be borne in mind that they are by no means all of the projects proposed to be constructed within the State of Wyoming subsequent to the year 1902. In *Volume II, Part II of our original brief*, the question of priorities and the evidence relating to all these projects and also to the Greeley-Poudre system was very carefully and exhaustively reviewed. We most earnestly ask the consideration of the court to that discussion. It would seem unnecessary to again review the whole subject as fully as we did in our original

brief, but we desire to say that the evidence concerning the filings in the office of the State Engineer of Wyoming, upon which permits had been issued for projects, in addition to these which we have described, will be found in the transcript at pages 3909 to 3933, inclusive, and in Exhibits 159 to 178, inclusive.

The filings in the office of the State Engineer and the permits issued thereon have been classified and tabulated in connection with the discussion of this subject in Volume II of our original brief, particular reference being made to pages 214, 215, 217, 218, 219, 220 and 228. Suffice it to say here that the evidence discloses that many large projects for the **diversion of water from the Laramie River** in Wyoming, in addition to those previously discussed, have been surveyed, findings of ample water have been made by the State Engineer of Wyoming, and permits have been issued for the construction thereof long since the year 1902. These had not been constructed when the evidence in this cause was taken, but there is no suggestion that they have been definitely abandoned, and so far as these defendants are aware, these projects are still in contemplation of the persons promoting them and stand as large junior and approved claims from the river.

The situation relative to these six projects above specified may be summarized as follows: The Sybille and Bordeaux tracts were not in contemplation of the owners of the Wheatland system when the Wheatland Reservoir No. 2 was constructed, nor for many years thereafter. These two projects were afterthoughts, wherein it is proposed to utilize the surplus water already provided primarily for the irrigation of the original Wheatland tract. There can be no claim that these projects are entitled to a

date earlier than the date upon which their permits were filed. The doctrine of relation cannot be applied to give them a date concurrent with the construction of Wheatland Reservoir No. 2 or any other part of that system. Even if we ignore the Wyoming law and date them as of initial survey, the appropriation of water for the irrigation of the Bordeaux tract cannot take a date earlier than February, 1904, nor can the appropriation of the Sybille tract date earlier than August, 1907. In passing may we remark that it is contended that various delays in the construction of the works designed for the irrigation of the Greeley-Poudre district lands destroy the continuity which it is contended must exist between the inception and the completion of the project, and that because of the lapse of time since the initiation of this system shown by the surveys made August 25, 1902, it cannot be contended that due diligence has been exercised by the owners of the Greeley-Poudre system. The difficulties in the way of this construction and the cause for these delays, we will discuss later, but it is interesting here to know that while the initial surveys for the system designed to irrigate the Bordeaux tract were made in February of 1904, nevertheless in the year 1913, when the evidence was taken, a mere nominal amount of land out of the 10,000 acres included within this tract had been irrigated and, the only work required in making the canal was the construction of a large lateral ditch leading from the main Wheatland system. No reservoirs were necessary. This ditch was constructed in a territory adjacent to lands now under irrigation, easily accessible, and yet the beneficial application of water, which is the ultimate test of appropriation under all laws relating to irrigation, had not been made. The ditch leading from the main Wheatland

system to the Sybille tract was surveyed in August, 1907, the conditions were almost exactly the same as those surrounding the Bordeaux tract, and yet in 1913, we find that this ditch to the Sybille tract had not been completed, water had never been run through it and not one acre of land in the Sybille tract had been irrigated except some small portions of privately owned lands located within the confines of that tract which had been irrigated from other sources. The charge of the lack of diligence upon the part of the defendant in the construction of the Greeley-Poudre system hardly comes in good faith in view of this situation, particularly when the difficulty of construction and the immensity of the project for the irrigation of the Greeley-Poudre lands and the enormous expenditure of money in construction are considered.

Passing now to the Lake James project we find that it cannot be contended, and as a matter of fact it is not contended, that it is entitled to a priority date earlier than March 22, 1908. This system was apparently completed and water had been stored during at least three seasons, when the testimony was taken, and yet we find that the plaintiff admits that only 1,500 acres irrigated under this system in the year 1913.

The Lake Hattie system was based upon surveys commenced April 16, 1908. It had been completed and water had been stored for several years and yet under this system the plaintiffs themselves contend for only 700 acres of land reclaimed.

The Lake Hutton system surveys were filed June 3, 1909, and yet this system is not completed and no water run through the inlet from the Laramie River and not an acre of land reclaimed under this

project although all this time the waters of Sand Creek, naturally tributary to the Laramie River and available for the use of many ditches below the mouth of Sand Creek which is some distance above the city of Laramie, are diverted into these lakes and allowed to evaporate. How can this condition be possible if the contention of the plaintiff that the ditches on the Laramie Plains had been short of water for years, be true? The defendants have contended throughout this case that there was a superabundance of water and that Wyoming has wasted a large portion of her supply. Here is indisputable evidence of that fact. Very evidently the findings of the State Engineer of Wyoming, of ample water supply, were correct.

The Sodergreen Highline, which was constructed upon surveys commenced in November of 1907, is completed and has been used for the irrigation of land testified to between four and five thousand acres in extent. The capacity of this ditch is not known although it is obviously of considerable size.

These projects are long prior to the Greeley-Poudre system. If priority of diversion regardless of state lines were to be applied to a case such as this, then obviously each one of these recently initiated systems, as well as all others contemplated by the permits to which we have referred, must be denied water until the demands of the Greeley-Poudre system on the Laramie River have been fully satisfied. However, we do not believe that that principle is the law of this case. The fact, however, that the Wheatland Reservoir No. 2 has storage sufficient for the irrigation of 40,000 acres of land in addition to the amount of land which it was originally designed to irrigate; the fact that Lake James has stored water to the amount of 41,100 acre feet and

practically no lands are yet reclaimed under it and that Lake Hattie has stored water to a total capacity of 110,500 acre feet, 42,000 acre feet of which cannot be withdrawn from the reservoir as it is now constructed, and that only 700 acres of land have been reclaimed under it; the further fact that these two reservoirs with a total active capacity of 109,600 acre feet have water sufficient for the irrigation of 109,600 acres of land according to the statements and conclusions made by the Wyoming hydrographer, Ralph I. Meeker concerning the duty of water on the Laramie Plains; the still further fact that water from Sand Creek has been wasted year after year in Hutton Lakes without any attempt to apply it to beneficial use; and lastly, the fact that each year enormous quantities of water are deliberately and needlessly wasted; all conclusively prove the contention of the defendants that there is more than an abundance of water for the irrigation of the lands now irrigated in Wyoming after deduction has been made for the diversion through the tunnel by the Greeley-Poudre system, and further that a surplus remains for the reclamation of thousands of acres in Wyoming.

(3) The Greeley-Poudre Diversion.

The appropriation of the Greeley-Poudre system from the Colorado branch of the Laramie River by means of the tunnel and collection ditches dates from August 25, 1902. This is the decreed date of the priority in the State of Colorado. (Exhibit 179) As we have stated, this Colorado decree is no more binding upon the State of Wyoming than Wyoming decrees are upon Colorado, but we refer to it in order to show that it legally establishes the date under the laws of the State of Colorado and is binding upon

all Colorado appropriations from this stream. The plaintiff contends that there is a lack of continuity both in the plan or design and also in work as originally proposed and as undertaken by The Greeley-Poudre Irrigation District, and that the tunnel as a means of diverting water from the Laramie River was not in contemplation of the original promoters, neither was it originally designed to irrigate the specific lands now included within the limits of the present Greeley-Poudre district.

This contention is not established by the evidence and the District Court of Colorado found otherwise. In fact, the evidence discloses a complete chronological connection between the original ideas of Wallis A. Link, who discovered the possibility of making this diversion and which he later planned, and the system now in a great measure completed. The only changes made were in no wise fundamental and arose merely because of the improved methods of construction suggesting themselves as the work progressed. The plan was in all respects the same from the first—to build three collection canals and the tunnel. However, it must be borne in mind that the tunnel is not the fundamental feature in the consideration of this appropriation. The tunnel was merely a factor, the means to an end. The whole purpose and object of the contemplated diversion from the very inception was to procure water available in the Laramie River for the irrigation of lands in the Poudre Valley.

A great deal has been said in the supplemental brief of the survey of a canal which the plaintiff terms "The Detour Canal." This title is entirely of their own invention. No such name was ever applied by the defendants or their witnesses. The surveys for this canal were commenced in the fall

of 1908 and continued into the year 1909. The line of survey may be generally described as commencing in the valley of the Laramie River at a point near Glendevy, about nine miles below the tunnel, running thence in a northerly direction along the side of the mountain forming the eastern wall of the Laramie River Valley in Colorado, to or beyond the Wyoming-Colorado line; thence easterly into a stream which is tributary to the North Fork of the Poudre River. Inasmuch as the range of mountains to the east of the Laramie River is very much lower in the general location of the Colorado-Wyoming line than further south, it was thought by some that it might be possible to construct a ditch running around this higher portion of the range and thereby divert the water from the Laramie River without the enormous expense of constructing the tunnel. The tunnel surveys and filings based thereon, as we will presently show, had been made some four years earlier and construction was proceeding. But the plaintiff argues the tunnel was not a definite part of the project at the time this ditch survey was made. In this they are entirely in error. We shall presently trace the history of the development of the Greeley-Poudre system commencing with August 25, 1902 but, for the time, considering only the contentions of plaintiff concerning this so-called Detour Canal, let us state that during the progress of the surveys and construction work upon the Greeley-Poudre system, but before the actual drilling of the tunnel was commenced, a reconnaissance survey was made in order to determine an alleged possibility of avoiding the enormous expense of tunnel construction. This was in the years 1905 and 1906 (1759), and in connection with the idea of a ditch such as we have described, it was thought possible to construct a reservoir in

The channel of the Laramie River near Glendevoy or about nine miles below the present tunnel (1760-1767'). Had this plan been feasible, the mountain ditches and the collection ditches already designed and partly constructed, as well as the tunnel, could have been eliminated and the water carried around the divide between the Laramie River and the North Fork of the Cache la Poudre River. The result of the survey disclosed that this canal was impracticable. Finally, and of course, with the failure of the scheme for the canal, there failed also the plan for the reservoir which would avail nothing for the irrigation of lands in the Poudre Valley. The previous plans for the collection ditches and the tunnel were thereby confirmed as being the only available method by which the water could be diverted from the Laramie River. However, we find from the testimony of D. A. Camfield, who became interested in The Laramie Poudre Reservoirs and Irrigation Company in the fall of 1908, that there was a body of land lying north of and higher than the lands within the area of the present Greeley-Poudre district, which were desirable for reclamation (2170), but which could not be irrigated by means of the diversion canal from the Poudre River. Accordingly in 1908 another survey was made of this line for a proposed ditch out of the Laramie Valley. This survey of 1908 being much more in detail than the reconnaissance of 1905 and 1906, but the result of this last survey was the same as before. Charles R. Hedke, the construction engineer of The Laramie Poudre Reservoirs and Irrigation Company, testifies that this detailed survey and investigation confirmed the former conclusions that had been reached in 1905 and 1906. The survey disclosed that "it required a ditch about 100 miles in length, with obstacles of every possible nature, steep

hillsides, unsuitable material, broken and disintegrated rock, and conditions were such that under ordinary ditch construction, water turned in at the head of the canal would undoubtedly be lost before it reached the lower end unless the canal were lined. Many tunnels were necessary; also syphons and flumes, and the character of the country required special construction for almost the entire length of the canal. That means of diverting water was entirely abandoned after that time. It would have cost about \$30,000 per mile and 100 miles of that canal would make the cost beyond consideration" (1762).

It must be borne in mind that the tunnel surveys had been made prior to this time (in 1904) and construction upon the collection ditches was progressing and this was simply an effort, in the first place, to determine an alleged alternative route for the diversion without the great expense of constructing the tunnel and, in the second place, to obtain if possible, water for lands capable of irrigation lying higher than the diversion ditch from the Poudre River (1838). The witness, Hedke, after reviewing the various surveys that were made in order to secure the most advantageous means and locations for the diversions from the Laramie to the Poudre River, says: "My conclusion was and is that the Greeley-Poudre tunnel is the only means of diversion between the Laramie River and the Poudre. It represents the final economical development for the purpose of diverting water from the Laramie drainage to the Poudre drainage" (1766).

We have mentioned the survey of a reservoir at Glendevey in connection with the survey of this proposed ditch around the divide. This reservoir site was known as the Laramie Reservoir. Of it engineer Hedke testifies: "Surveys of the Laramie Reservoir

were completed, but it was separate and apart from the system commonly called the Greeley-Poudre system. It was surveyed and mapped as a subsequent and junior enterprise. It was surveyed sometime in November, 1906. * * * Later, those in charge of construction of a system in Wyoming—The Interstate Reservoir Company—interfered with the development and construction of this reservoir. This was after our survey. * * * They made application to the national government for rights of way which interfered with our work. We considered it was a proposition that would not be necessary in contemplation with our system and abandoned it for the time and no further steps were taken to perfect that portion of the work. * * * It finally worked out that some rights of way were obtained by the Wyoming people from the government" (1767). In this connection it is of interest to note that this same Wyoming company, The Interstate Reservoir Company, made a number of filings and was granted several permits for other ditches and reservoirs within the State of Wyoming, none of which were ever completed, except that possibly a portion of them were later woven into the Lake Hattie system (see Exhibits 170 and 171). The indefinite plans of the various parties in interest leading up to the Lake Hattie system as finally constructed also include in some indefinite way, a reservoir site for which filings were made, located at or near the Colorado-Wyoming line. This is known as the Robertson-McConnell Reservoir, named after two men by that name, who, at some time or other in the history of the Lake Hattie system were interested in some of the filings relating to it. A permit for the construction of this Robertson-McConnell Reservoir at the state line, was granted by the State Engineer of Wyoming on Octo-

ber 15, 1909 (Exhibit 177). This survey disclosed plans for a reservoir with a capacity of 335,831 acre feet. It is impossible for us to clearly define the claims of various promoters who were at one time or another interested in the Lake James and Lake Hattie systems, but it is obvious that even after construction these two systems were still in the speculative stage. By that we mean that they had a vast amount of water available and were evidently seeking land upon which to make the application. The claims of The Interstate Reservoir Company for a reservoir in Colorado at Glendevy and the claims for the Robertson-McConnell Reservoir at the state line for which a permit was granted, merely go to show that in the minds of these people there was sufficient assurance of a vast amount of water available for storage even after the diversion by the Greeley-Poudre district and that these people were contemplating the construction of these reservoirs, knowing of the work then being done upon the Greeley-Poudre system.

We believe that any argument, based upon the fact that a survey was made for the canal which plaintiff's counsel terms the Detour Canal, to the effect that at the date of that survey, the tunnel was not definitely planned or contemplated, will avail nothing. We have already explained, the tunnel was only a means to an end, and then after it had been planned a survey had been made showing the enormous cost of such construction, all alternative routes were sought in order to avoid this expense if possible. This alternative route proved to be absolutely impracticable and the tunnel plan thereforeto adopted in 1902-1904, was confirmed as the only feasible course to pursue. As we will show later, there can be no question—as a matter of fact it is ad-

mitted—that the survey upon the tunnel itself had been made in the year 1904, before the so-called Detour Canal survey was made, and obviously, in view of the fact that the tunnel was constructed as planned in 1902-1904, it cannot be contended that there was any abandonment of the plan for the construction of the tunnel.

VII. HISTORY OF GREELEY-POUDRE SYSTEM.

The possibility of construction of the Greeley-Poudre tunnel enterprise was first revealed to Wallis A. Link in 1897 while he was hunting on the divide between the Laramie and Poudre rivers. This discovery is the source of some irony by plaintiff in its original brief, for the evident reasons set forth in the defendants' original brief replying thereto, and, as there observed, while this discovery by Mr. Link in 1897 ultimately led to the actual commencement upon the tunnel enterprise of the Greeley-Poudre system on August 25, 1902, by Link and his associates, no claim of priority of appropriation for the enterprise has been asserted upon pretext of the date of discovery of the site in 1897, and it is also true, that no evidence was offered of previous discovery, observations or surveys by persons in no manner identified with the enterprise finally initiated. The discovery and all of the subsequent reconnaissance work by Link and his associate between 1897 and 1902 are but historical facts preliminary to the actual beginning of construction. (Vol. II, pp. 167-71, Defts. Orig. Brief.)

Following the discovery of the tunnel site, Mr. Link made further investigations of the feasibility of a general tunnel enterprise and thereafter interested A. I. Akin in the general plans, at which time Link drew a rough plat or map of the country showing

the possibility of the tunnel and its three collection or supply ditches. Subsequently reconnaissances were made by Link and Akin and the general plan for the enterprise was adopted and arrangements were made for the beginning of surveys.

Before any surveys were commenced Link and Akin adopted a general well-defined plan of action and outlined the tunnel system substantially as it is partially constructed today (1931-4). The tunnel was the first and most important unit of the system, provided sufficient water could be carried to its west portal to warrant the enormous expenditure of money required in its construction. Hence it was that these gentlemen outlined three lines of canal to be constructed for the purpose of intercepting the waters on either side of the adjacent territory and carrying the same up-stream to the point where the west portal of the tunnel would be. A number of small natural lakes in the vicinity of the upper of the three collection ditches were to be utilized as reservoirs for storage and regulation of flow of the water through the canals. Considerable time was spent upon the ground and particularly along the line of the upper canal, the construction of which presented the first problem for solution (1937).

The initial suveys were commenced upon a system already carefully planned and the first engineering was naturally done upon that part of the collection ditch system which still presented the most serious problems of engineering and construction. If this Upper Rawah ditch should prové to be feasible the remainder of the system, which was more exposed to view, seemed practicable (see Link, pp. 1929-2036; Akin, pp. 2038-75).

August 25, 1902 (1929-35; 2039-42), initial surveys upon the tunnel enterprise of the Greeley-

Poudre system were commenced by engineer Frank Beach under the direction and with the assistance of his employers, Link and Akin, and the engineering work continued until the close of the working season of that year (1933, 1938-9, 2039). This is the date of the priority of the Greeley-Poudre system established by the district court of Larimer County, Colorado (Ex. 179).

The mountain wilderness in which the tunnel project and its collection ditches and reservoirs is located and the early history of the enterprise are reviewed at length in our original brief, Vol. II, pp. 133-163. Briefly, the tunnel, collection ditches and reservoirs are located high in the mountains, remote from settlements and in a region where all labor and supplies have to be transported over mountain roads by wagons and teams for a distance of 80 miles or more from the nearest railroad stations at Laramie and Tie Siding, Wyoming and Fort Collins, Colorado (1404, 1619, 1755). Climatic and physical conditions are such that work is limited to from 90 to 120 days in each year. During the rest of the year the snowfall is so heavy that no open work can be done (2077). A considerable portion of the country is heavily timbered and all of the construction, following clearing the way, involves the excavation of rock and other similar materials. In fact the region is in all respects to be contrasted rather than compared with plains areas.

As stated, the original surveys commenced August 25, 1902, and were continued until the party were driven out by snow (1933, 1930, 2039). Realizing that if the collection ditches and reservoirs were impracticable insufficient water would be available to warrant the enormous cost of tunnel construction, Link and Akin directed their first efforts to sur-

veys of these collection units, and, as we shall hereafter observe, finally covered the 1902 and successive surveys in complete record filings for the tunnel and all the other units in 1904 and began the first actual excavation in June, 1904, upon a short canal to be used for carrying the water obtained from the Upper Rawah collection canal to the tunnel.

With the opening of the short working season of 1903 Link and Akin proceeded with the construction of wagon roads into the remote mountainous region where the furthestmost collection canal (Upper Rawah Ditch) must necessarily be constructed. These wagon roads must first be constructed to permit transportation of men, supplies, machinery, etc. (1942-45; 2042-43.) The whole of the working season of 1903 was occupied with this road construction so necessary to further engineering or construction work.

March 17, 1904, Engineer R. Q. Tenney and party commenced the first survey of the tunnel unit of the system, previous surveys having been extended to the upper collection ditch, the practicability of which was the first essential element in determining the feasibility of the tunnel project (1822, 1847-50, 1936-7, 2045-46, Ex. 75).

Immediately following the R. W. Tenney survey, Zac T. Duvall, an irrigation engineer of wide experience, continued the surveys, assisted by R. Q. Tenney. He and his party commenced work May 22, 1904 and were continuously engaged during the entire working season of 1904. The results of their efforts were later incorporated into a certain filing map, a copy of which was herein introduced as defendant's Exhibit No. 75. As observed by Mr. Duvall, this map merely sets forth those units actually

surveyed by Mr. Duvall and did not attempt to include any previous or other surveys.

It is interesting to note that the Greeley-Poudre tunnel subsequently completed for The Greeley-Poudre Irrigation District is upon the same location selected by R. Q. Tenney in March 17, 1904 and Zac T. Duvall in May of that year, before any actual excavation, other than the building of roads, had taken place upon any unit or part of the tunnel system and its three collection canals (See Defts. Orig. Brief, Vol. II, pp. 138-63, including all page references), and further, that the three collection canals were finally constructed upon the lines fixed by Mr. Duvall in 1904 with some minor changes in methods of carrying the water to the tunnel; and that the first of these to be constructed was the upper line situate in the most remote region and involving the most difficult engineering problem. There were some minor departures from the original lines of the lower west side collection canal, principally that of substituting tunnels and further ditch lines for inverted syphons, but such changes had no effect upon the general plan of the system.

Before continuing further we should again note that the first actual excavation took place in 1904 and that this work was not performed upon any of the three collection canals, but, on the contrary, at a point low down in the Laramie River Valley and at a much lower elevation than the Upper Rawah Ditch or the Skyline Ditch of The Water Supply & Storage Co. A short canal some 500 or 600 feet long was constructed to connect the East and West forks of the Laramie River so that the water flowing down the West Fork of the stream from the Upper Rawah Canal, could be conveyed directly to the portal of the tunnel. Water was turned into this canal July 10,

1904, prior to any excavation upon the Upper Rawah or any other canal of the sytsem (1885).

The construction of this short canal is a complete answer to any contention of plaintiff's counsel that the Upper Rawah ditch was merely an extension of the Skyline Ditch of The Water Supply & Storage Co. and had no connection with the tunnel project, or that the original plan contemplated the permanent use of the Skyline canal for carriage of water from the Upper Rawah ditch. If such had been the plan it is evident that this short canal, constructed at a location of 1,000 feet lower in elevation than the Skyline ditch and at the immediate west portal of the tunnel location, would not have been the first to be built upon the system. Very evidently any such expenditure of time or money would have been useless and of no purpose had any other than the tunnel plan been the ultimate object from the outset, and this fact becomes more apparent by consideration of all the testimony concerning the Upper Rawah Ditch which is fully discussed on pp. 171-186, Vol. II, Defts. Orig. Brief.

The deep snow at the higher elevations prevented Duvall from commencing final surveys upon the Upper Rawah Canal until July 4, 1904. After that date both survey and actual excavation proceeded upon that unit of the tunnel system.

The work done in 1903, 1904 and 1905 is described in detail by the witness, Duvall, in his testimony (1874, 1906), and in the testimony of Wallis Link (1907, 1998), A. I. Akin (2038, 2075), and others, and photographs of the 1902, 1903, 1904 and other work are in evidence. This evidence is all reviewed in our original brief, Vol. II, pp. 138-163. It would seem unnecessary for us to again go into details in this brief.

Of the work done in the years 1905 and 1906, we have the testimony of the witnesses, Link and Akin and othered above mentioned, and in addition thereto the testimony of the engineer, Charles R. Hedke, who became connected with the project, more particularly with the tunnel surveys, as consulting engineer in March, 1904. In 1905, he entered actively upon the work connected with this system and his testimony is of particular interest as all surveys and construction were under his direction from 1905 until February of 1911, after which time he did no field work on the Greeley-Poudre project, but performed services from time to time as consulting engineer. His testimony covered a wide range of discussion involving the surveys, plans and work done upon this system. (Hedke, 1723 to 1873, incl.)

During the seasons of 1905 and 1906 the work proceeded. Surveys were continued and made more in detail for the purpose of determining definite locations, cross sections, etc., of other units of the enterprise. In addition to the work on the Laramie River, surveys and other work were proceeding in the Poudre Valley. While the work in the Laramie River involved the problem of securing the water, that in the Poudre Valley involved the question of application, and consideration was given to several possible plans (1748.) As these plans evolved, Link and Akin and their later associates, determined upon reclamation of the lands now embraced within the territorial limits of The Greeley-Poudre Irrigation District. The reclamation of a portion of these lands had previously been undertaken by means of the "Poudre Valley Canal" diverting water from the Poudre River. The upper portion of this canal had been constructed in 1901 but it failed to reach the lands and was thereafter used as a feeder for

certain reservoirs. The continuation and extension of this canal was undertaken. It is now the main canal of The Greeley-Poudre Irrigation District (1735-9). After 1905 a portion of the work upon the system was prosecuted upon the Poudre Valley units. During 1904, Wellington Hibbard also became interested in the tunnel enterprise and upon him fell the greater part of the burden of financing this gigantic reclamation project (1963). Under his management arrangements were made whereby the water to be diverted from the Laramie River could be carried through the Poudre Valley Canal to the lands now included within the irrigation district (2053).

Witness Akin testified that up to October 1906, \$31,738.90 (2053), had been expended by himself and his associates on this enterprise, and in addition, they had expended \$4,998 in the purchase of necessary property on the Laramie River.

During the years 1902 to 1906 the title to the system was vested first in Wallis A. Link and A. I. Akin. In the early spring of 1904, Myon Akin and Wellington Hibbard became interested (2045). In September, 1906, the title passed to a company composed in part of these men, known as The Laramie Reservoirs and Irrigation Company (2055). March 19, 1907, the defendant, The Laramie-Poudre Reservoirs and Irrigation Company was organized and succeeded to all the rights, title and interest of The Laramie Reservoirs and Irrigation Company.

Following the organization of The Laramie-Poudre Reservoirs and Irrigation Company the work upon the entire system, both on the Laramie River and in the Poudre Valley, progressed much more rapidly. Engineering plans were worked out in further detail, construction gangs continued excava-

tion in the mountains, at first in large part upon the Upper Rawah Ditch (2054-2060); upon the large canal upon the plains of the Poudre Valley, and upon all parts of the system, and wagon trains were freighting from the railroads at Fort Collins and Laramie City and upon the plains.

During the season of 1907, from \$40,000 to \$50,000 were expended on the Upper Rawah Canal and Laramie River portion of the system (1795, 2053). On the line of the extension of the Poudre Valley Canal (now the Greeley-Poudre Canal) construction work was carried on throughout the year upon a section of from 30 to 35 miles in length (1768 to 1770, 2069-64).

In 1908 the work still continued although it was probably not pushed so vigorously as in the year 1907, because of the fact that the financial situation in the fall of 1907 interfered with the plans of the company for securing money for construction.

During the year 1907 and to March 1908, \$129,572 were expended on actual construction and about \$250,000 for all purposes (2064.) (See Defts. Orig. Brief, Vol. II, pp. 138-163).

During 1908, D. A. Camfield, a man who had had extensive experience in irrigation enterprises, entered the company (2138-57.) He testified that after making an investigation of the project and considering the possibilities from every standpoint, he bought 23 per cent of the stock in The Laramie-Poudre Reservoirs and Irrigation Company then engaged in construction of the system.

At the time Mr. Camfield purchased into the concern, approximately \$800,000 had been expended for all purposes upon the system, so far as it had been completed (2159). Through the efforts of Mr.

Camfield, the lands which it had been theretofore designed to irrigate by means of this system, were formed into The Greeley-Poudre Irrigation District (2160), one of the defendants herein, and on Sept. 8, 1909, a contract was entered into between the irrigation district and The Laramie-Poudre Reservoirs and Irrigation Company whereby that company was to complete its project (under construction since Aug. 25, 1902) and turn the same over to the irrigation district for a payment of \$5,000,000 of the bonds of the district, the payments for future work to be made upon monthly estimates as the work progressed (2161). Arrangements were made whereby these bonds were sold to a banking house in Chicago.

Construction upon the tunnel unit of the system was organized (2162). A controlling interest was purchased in the Poudre Valley ditch. Prior to this time merely a carriage right had been held in this canal (2162). A hydro-electric power plant on the Poudre side of the tunnel was established at a cost of \$97,000 in order to furnish light and power for the construction of the tunnel (2163). All supplies and machinery used in its construction had to be transported by wagon from Fort Collins and Laramie (1648, 1649). A transmission line about three miles in length was run over the divide between the Poudre and Laramie Rivers and the work of drilling the tunnel was commenced at both ends. Large camps resembling electric lighted villages were established at both places, and the work prosecuted continuously day and night until the great tunnel was completed. The two bores met in July, 1911 (1652).

Plaintiffs in their supplemental brief comment upon the contention that it was impossible to do work upon the collection ditches upon the Laramie River

in the winter time, stating that this is contradicted by our own testimony showing that work was done on the tunnel throughout the winter months. It will be obvious without explanation, that the protected tunnel work could be carried on during the winter months under conditions which would absolutely prevent the construction of ditches out in the open.

The power plant and the tunnel, together with the concrete linings placed in portions of it, cost about \$600,000 (1652). The tunnel is 11,366 feet in length and passes clear through the range of mountains. It is $7\frac{1}{2}$ feet high and $9\frac{1}{2}$ feet wide (1647).

In the meantime the work of mountain canal construction, more particularly the construction of the East Side and West Side collection ditches, was continued during the working season, until October, 1910. These canals, as we have previously described, run along the side of the mountains on each side of the Laramie River Valley, practically conducting the water of tributary streams up the channel of the Laramie River to the reservoir. The construction is not only extremely difficult, on account of the inaccessible location, and very slow of accomplishment but is also very expensive owing to the fact that a large percentage of the work must be done in rock (1658, 1663).

It must not be overlooked, however, that the work done upon the system in the Poudre Valley is just as essentially a part of this whole project, as is the work on the Laramie River. The diversion of water from the Laramie River into the Poudre River, would not of itself irrigate the lands of this district. In the first place there was not a sufficient quantity, and in the second place, the diversion ditches from

the Poudre River and storage reservoirs in that area have to be constructed.

The water from the Laramie River is by no means a sufficient amount for the irrigation of the 125,000 acres of land included within the district, an additional supply had to be obtained from the Poudre watershed. This problem had been made the subject of special study by Prof. Carpenter and covered by a report made in 1909, confirming the conclusions which had previously been reached as to the water supply, upon which plans had been made and a vast amount of construction done (3933-3957). Professor Carpenter reported at that time, that there was an average amount of 120,000 acre feet of water in the Poudre river represented by the peaks of the flood flow, in excess of prior claims from that stream alone but without taking any account of the then existing and prior claims upon this excess water by canals upon the principal stream (South Platte), below the mouth of the tributary (Cache la Poudre). He explained, however, as has been commented upon by plaintiff in its supplemental brief, that there were unusually high floods which it was impracticable to intercept and impound, because of the uncertainty of these flows, and the further fact that no ditch capable of diverting them would be justified, even though no claims existed upon the South Platte, inasmuch as these flows were of short duration and any diversion system would have to be built of enormous size in order to intercept a very high flow of usually short duration. He therefore states that of the 120,000 feet excess in the Poudre River, possibly 60,000 to 90,000 acre feet might be made available to the lands of the irrigation district, having no regard to South Platte claims. In some seasons these prior South Platte claims may consume all the excess flow of the Cache la Poudre.

The plan for the irrigation of this district included a large reservoir to be constructed in the channel of the Poudre River in the mountains. It is obvious that such a reservoir, if large enough, like the Wheatland Reservoir No. 2, is capable of intercepting peak flows and equalizing the distribution (3936).

There are some streams of intermittent or flood flow entering the Poudre River from the north on the plains area. These are merely torrential streams, with the exception of possibly one, Crow Creek, which rises in Wyoming, and flows into Colorado. This stream is the one from which the City of Cheyenne takes its water for domestic purposes. As a rule it does not discharge water into the South Platte River, the small quantity which it carries normally being intercepted largely in the State of Wyoming, although Professor Carpenter explains in his discussion of inter-watershed appropriations, the appropriators in Wyoming are junior to the appropriations in Colorado on this stream. (This is the same stream involved in the recent case of Grover Irr. Co. vs. Lovella Ditch Co., 9 Wyo. 110, wherein Colorado citizens were denied easement for using waters in Colorado which rise and flow in Wyoming. This decision was made since Prof. Carpenter's report.)

It was planned, however, to intercept, as far as possible, the floods occurring occasionally in these streams.

Professor Carpenter's estimate as to the available water for the Greeley-Poudre District may be summed up as follows: From the Laramie River, 70,100 acre feet; from the Poudre River 60,000 to 90,000 acre feet (without consideration of South

Platte Claims); from Doudy Lakes, that being a system of lakes lying in the mountains on the Poudre side which form a part of the reservoir system of the district, 2,990 acre feet; from Douglas reservoir, which is a reservoir already existing in which the Greeley-Poudre district has an interest, 5,833 acre feet; and from flood waters of Lone Tree and Crow Creeks from 3,000 to 10,000 acre feet, making a total of 142,000 to 179,000 acre feet (3936). The water of Lone Tree and Crow Creek are now denied Colorado users by Wyoming). It must be remembered that the Laramie River water estimated as an amount of 70,100 acre feet is based upon estimates of the quantity at the tunnel, from which point it is subject to unavoidable loss by evaporation as it flows through the canyon of the Poudre River and by unavoidable seepage and evaporation through the diversion ditch to the lands of The Greeley-Poudre Irrigation District. However, the natural loss through the canyon of the Poudre would probably be no greater than a similar loss in the Laramie River from the tunnel to the Laramie Plains. This total does not represent the net amount available for application upon the lands of the district, but rather, to the amount estimated to be available at the points of diversion. The seepage losses from canals would be probably no more than similar losses from the Wheatland canals in Wyoming.

All of the available water from both the Poudre drainage and the Laramie River is necessary for the irrigation from year to year of the lands within the Greeley-Poudre district (1708).

Moreover, inasmuch as the Poudre River is but a tributary of the South Platte, and there are ditches diverting water from the South Platte river below

the mouth of the Poudre within the State of Colorado of earlier date than some of the Poudre Valley ditches and many of its reservoirs, and much earlier than the Greeley-Poudre system, there is at times a demand for water on the part of these lower South Platte ditches which necessitates the closing of headgates on the Poudre, in order to supply the demand of the lower canals (3411). This may result in the appropriators of water from the Poudre closing their headgates at a time when, if the Poudre River were considered alone, there would be available water for their needs.

Very briefly the system of works in the Poudre Valley necessary for the irrigation of these lands in The Greeley-Poudre Irrigation District consisted of the construction of a canal many miles in length from the end of the Poudre Valley canal, which we have previously described, to and along the upper boundary of the lands of the district, together with several branches necessary for the proper distribution of this water, and the construction of several reservoirs. These reservoirs secure the greatest economy by regulating and equalizing the flow of the canals so as to deliver the water only when needed by the farmers and also assure annual production by storing the water of high years for use in years of low flow in the streams. Of these, the Doudy Lakes, just mentioned, were already in existence, so also was Douglas reservoir, owned only in part by the district. In addition to these, the plan called for the construction of the reservoirs known as McGrew Lake, March Reservoir, Camfield Reservoir and several other smaller reservoirs situated in the general vicinity of the lands of the district, together with outlet canals whereby the water from these reservoirs could

be distributed, and also the construction of one large channel reservoir in the canyon of the Poudre River in the mountains. On the map, Exhibit 1, attached to the answer of the corporations named defendants herein, the works of this system, as planned, are clearly shown. A glance at this map, which shows both the Poudre River and the Laramie River drainage areas, will enable the Court to understand more clearly the discussion made in these briefs. On this map the reservoirs and ditches of the Greeley-Poudre system are colored red. It will appear that there are three channel reservoirs planned in the Poudre canyon. These were alternative sites then contemplated, of which only one, the middle or Elkhorn Reservoir will probably be constructed, as it is the more practicable.

The engineering and construction of the plains division, so called, of this system had been vigorously pursued since 1905 by The Laramie-Poudre Reservoirs and Irrigation Company, and its predecessors, at the same time work was progressing on the Laramie River and, under the contract with the district, all this work was to be pushed to early completion. It is contended in the supplemental brief of the plaintiff, that during the years 1905 and 1906, no construction work was in progress on the Laramie River end of the system, although it appears that detailed engineering was being done during those years. However, the work of the system as a whole was being conducted with regular continuity, commencing with the surveys of August 25, 1902, and the work developed naturally and increased as the financing of the project progressed. Concerning the work done in the Poudre Valley and the system as there planned, see particularly the evidence of the witness,

Wortham, engineer for the district, at pages 1699 to 1716, and that portion of the testimony of Charles R. Hedke, the construction engineer for The Laramie-Poudre Reservoirs and Irrigation Company at pages 1743 to 1855. This testimony of the witness, Hedke, shows the work done between the years 1905 and 1911 on the system as a whole. It is of interest to review his testimony of the amount of work which he found already done and the surveys already made by his predecessors on the Laramie River, when he took charge of the work early in the year 1905 (1745), confirming the testimony of the engineer, Duvall, who had made the earlier surveys, and witnesses Link and Akin.

It seems to be contended by the plaintiff that the work done on what is termed the Plains Division, has no bearing upon or relation to the diversions from the Laramie River. But this contention is erroneous. The system whereby the Laramie River water could be diverted from the Poudre River and applied to the lands of the district was absolutely essential and cannot be disassociated with the work on the Laramie. It is true that the system contemplated the appropriation of some of the water from the Poudre. Probably one-half or less of the supply must be obtained from that stream, but nevertheless, inasmuch as the ditch which diverts Poudre River water also diverts water which is added to the Poudre River by means of the tunnel and collection ditches, and inasmuch as the reservoirs designed to store the flood waters will in a measure store water both from the Poudre River and that added from the Laramie River, it follows that the plains division of the work is inseparable from the mountain division and the system must be treated as a whole.

Without tracing further the detailed history of the Greeley-Poudre System, we will state that the work progressed with greater vigor subsequent to 1908 than previously both upon the Laramie and Poudre Rivers and the Plains Divisions of the work. Crews of men and equipment were everywhere at work from the collection ditches in the mountains to the lower end of the great canal (2162), and this work was progressing in full force to an early completion when its final progress was prevented by Wyoming and her citizens, culminating in the bringing and prosecution of this suit (2164-6).

The great tunnel is complete (1778), and the entire project in a considerable measure constructed (2124), but sufficient construction yet remains to prevent use of the entire system.

In our original brief, Vol. II, pp. 134-167, we have given a more detailed history of the project and there reviewed the evidence. We respectfully urge consideration of the facts there set forth.

We have endeavored to trace, step by step, in this and especially in our original brief, the history of the project, commencing with the time upon which Wallis A. Link conceived the idea of this diversion in 1897 and the first survey on August 25, 1902, down to the close of the suit.

The record shows the following:

Progress Upon Greeley-Poudre System.

(Commenced August 25, 1902.)

1902—Engineering during entire working season after August 25th.

1903—Road construction upon system during entire working season with activity all winter.

1904—Tunnel line definitely surveyed on locations selected in 1902 where tunnel is now completed.

1904-7—Active construction upon the enterprise, engineering continued. Up to October, 1906; \$36,734.40 expended on the system (2053); up to March 1, 1907, \$46,079.32 expended.

1908—By March, 1908, \$296,079.32 had been expended in actual construction alone (See Vol. II, p. 162, Orig. Brief).

1908—\$800,000 expended upon project for all purposes from initiation (2159).

1911—(Feb. 1) \$1,825,000 (cash) expended on system to date (1779).

1913—More than \$3,000,000 in bonds sold and proceeds expended on system (2130) and more than \$900,000 had been expended on Laramie River portion alone.

(All the foregoing appears in detail, pp. 133-67, Vol. II, Defts. Orig. Brief.)

It would seem that at least "reasonable diligence" has obtained. We fail to find a similar degree of diligence displayed on the Wyoming projects, old or new, all the facts considered.

It will be remembered that the August 25, 1902 surveys were upon the line of the upper collection ditch which was also designed to tap some natural lakes known as the Link Lakes; that this ditch at first was called The Lake Link Ditch, and later the Upper Rawah Ditch; and that it was so constructed that a portion of the water which it intercepted might either pass down the West Fork of the Laramie to the tunnel or be from that stream diverted by the

Skyline ditch, and taken into Chambers Lake, and thence into the Poudre River.

In the original brief by Wyoming, counsel sought to show that because a part of the waters from this canal (of 224 cu. ft. per second capacity) might be diverted by the Skyline canal (of 130 cu. ft. per second capacity), it might be considered that the former canal was originally a separate institution from the tunnel enterprise. This they claimed was borne out by the filing which recorded the extent of the 1902 survey (stopped by snow). We made answer in full to this erroneous assumption in Vol. II, at pp. 171-186 of our original brief where we quoted the record in detail.

In this supplemental brief, counsel for Wyoming still seek to lead the Court to a misunderstanding of the facts to the extent of making a sketch map which appears on p. 45 of the brief, wherein they omit the course of the waters down the West Fork of the Laramie to the tunnel and substitute dotted lines between the lower canal (of 130 cu. ft. capacity) already diverting water from the West Fork, and the Upper Canal (224 cu. ft. capacity), thereby to leave the erroneous impression that the waters of the upper and larger canal, discharging for tunnel carriage lower down, are for carriage through the lower and smaller canal, already carrying its full capacity. Counsel further invent the name of "Skyline Extension" for this Upper Rawah Ditch of the Greeley-Poudre tunnel system. The record in this case, in large part quoted in Vol. II, pp. 171-186 of our original brief, and the decree of the District Court of Larimer County, Colorado (Deft. Ex. 179), reveal the facts. As we previously observed to try to carry the water of the larger canal through the

smaller would be like trying to fit a square peg into a round hole.

It is argued that, inasmuch as this ditch was the first one to be considered and the water, at least in part, could be temporarily taken through the Skyline ditch into Chambers Lake, there was not in the minds of the projectors any idea of a tunnel at the time of its original survey. But this contention is clearly disproved when the testimony of Link and Akin is considered. They both say it was merely a question of initial work of the system; that inasmuch as they did not have money to finance all of the work necessary to be done, there was in their minds a theory that some small part of the water from this Upper Rawah ditch, if temporarily taken through the Skyline Ditch and thence into the Poudre River, would furnish them, through temporary sale of this water, means with which the additional work on the tunnel could be carried on (1930, 1931). There was and is no carriage space available in the Skyline ditch during the season of high flow, May and June, so that it is obvious that no part of the water from the Upper Rawah Canal could be taken through to the Poudre River by that route at the very time when this Upper Rawah Ditch is capable of intercepting the greatest flow (2002). Moreover, the upper canal (Upper Rawah) as actually constructed in 1904 and thereafter, had a capacity of nearly 50% greater than the total capacity of the lower or Skyline ditch. These facts in themselves show that this method could not have been the basic idea in the minds of Link and Akin when they commenced work on the Upper Rawah ditch. Moreover, as we have shown, the surveys for the tunnel in natural sequence according to the plans as outlined, were made in the

year 1904, also the surveys for the East and West side collection ditches. Now where is there any ground for contention that the tunnel plan originated only after the formation of the Greeley-Poudre District in 1909? The tunnel as finally constructed was built upon the line located by Link 1897, adopted by Link and Akin in 1902 and definitely selected in the Tenney and Duvall surveys made in 1904.

We then find that in the years 1904 and 1905, additional persons, Mr. Myron Akin, and Mr. Wellington Hibbard became interested in the project and invested in it, and that a corporation including these original parties was formed, known as The Laramie Reservoirs and Irrigation Company. In the meantime the system developed as rapidly as conditions would permit. Later this corporation was succeeded by another one, The Laramie-Poudre Reservoirs and Irrigation Company, and in the spring of 1905 we find that Mr. Hedke, the engineer employed by this last named company, continued with the work of construction including not only the work on the Laramie River, but the engineering work necessary to develop the system on the plains. During 1906 and 1907 the work continued. In the year 1908, a powerful influence in the person of Mr. D. A. Camfield, who had previously constructed a number of other large enterprises for irrigation districts and the works for their irrigation, came into this project, at which time approximately \$800,000 had been expended on this system. But Mr. Camfield, having financed his former projects through the organization of irrigation districts and issue and sale of bonds which are a charge upon the lands, entered The Laramie-Poudre Reservoirs and Irrigation Company and purchased stock therein upon the understanding that an

irrigation district would be formed to include the lands already long since selected for irrigation. Pursuant to this plan The Greeley-Poudre Irrigation District was formed early in the year 1909. This district is a public corporation organized under the laws of the State of Colorado. The lands included are subjected to a bonded indebtedness for the purpose of purchasing or constructing systems for the irrigation of the lands. Under this law the qualified electors of the district elect directors who manage the affairs of the district. The Greeley-Poudre District when organized, made a bond issue of \$5,100,000 (2161) and entered into a contract with The Laramie-Poudre Reservoirs and Irrigation Company, under which the district purchased the properties and the company was to continue to completion the work of construction then and theretofore in progress since 1902 and to turn the system over, completed, to the district. In the meantime payments in bonds were to be made by the district to the company on monthly estimates as the work progressed. The company in turn obtained the money to prosecute its work by the sale of these bonds to a banking house known as Farson Sons & Company, which had contracted to purchase these bonds as the same were delivered from the district to the company.

This plan gave to the project sufficient finances to enable the work upon the whole system to be prosecuted with greater progress and this was continued as has been described by these various witnesses, until the year 1911, when because of threats made by the plaintiff through various persons in Wyoming, or officers of that state, the market for these bonds was destroyed and the banking house of Farson

Sons & Company compelled to decline to purchase more of them. This suit followed these threats. This case was commenced May 29, 1911, and from that time on it has been impossible to obtain a market for these bonds and work on the construction of this system has progressed but little. However, the district has expended such money as it has been able to receive through taxation, in doing what it could do and in keeping the system intact until the outcome of this case, when a favorable decision will permit the district to obtain finances for the completion of the work necessary to be done in the irrigation of these lands, which, from experience, will produce a development like that already existing on the lands now under irrigation in the Poudre valley.

The financial embarrassment which occasioned the complete cessation of most of the work on this system is due directly to numerous letters sent out, and interviews given to the public press by persons in the State of Wyoming, seeking to discredit the financial responsibility of The Greeley-Poudre Irrigation District, and also its ability to obtain water, particularly from the Laramie River for irrigation, followed by the initiation of this suit (see evidence, pp. 2164; 3682 to 3689; 3668 to 3670). When this condition was reached and when, because no more bonds could be sold, The Greeley-Poudre Irrigation District and The Laramie-Poudre Reservoirs and Irrigation Company were compelled to temporarily discontinue the work of construction, the district had, and for that matter still has \$2,340,000 of its bonds in its treasury. Three hundred thousand dollars worth of bonds were held in escrow for purposes not of interest here, and two million four hundred and sixty thousand dollars bonds have been expended upon this system (2165). These bonds are an outstanding lien

against the lands of the farmers of the irrigation district and are in the hands of innocent purchasers throughout the Central and Eastern States.

Moreover, in anticipation of the development of this tract of land, many persons had settled upon lands within this district, making improvements thereon and a number of small towns sprang up within the territorial limits of the district more particularly Pierce, Hungerford, Camfield and others. Banks and mercantile houses had been established and two lines of railroad had been built by the Union Pacific Railroad Company into the territorial limits of the district (3663-3665). These are merely a few of the items which might be mentioned showing the investments which have already been made in anticipation of the reclamation of this tract, all of which must come to naught, and this vast amount of money expended directly or indirectly on this project and in anticipation of its successful culmination will be lost and the holders of bonds to the amount of over two millions of dollars will lose their investment.

Nowhere, from the beginning to the end of the record in this case, is there a word so much as suggesting the abandonment of this project, or of any material portion thereof. The most that can be said is that as details were worked out, minor changes were made which in some instances eliminated small items of construction formerly under consideration. For Illustration: the construction of the dam for the tunnel eliminated the canal between the East and West forks of the Laramie River and also the pipe line leading across the valley from the West Side collection ditch, but not one of these items so eliminated, can be considered to be an aban-

donment. They are nothing more or less than a change in mere details.

The work of construction was proceeding rapidly when brought to a halt through no fault whatsoever of the defendants, but due to the alarm which had been occasioned by the threats publicly made by the citizens of the plaintiff state. We are not so foolish as to say that the plaintiff had no right to institute a suit if it felt that its rights were in jeopardy, but we do say that it comes with very bad grace for the plaintiff to contend that from the time when the work ceased in the year 1911, no substantial construction work had been done upon this system, and that therefore the original date of priority had been lost when the uncontradicted testimony shows that the cessation of work and the inability to resume it are due entirely to the acts of the plaintiff or citizens of that state.

Let us refer briefly to the history of some of the Wyoming projects, to learn what diligence has been shown in bringing about the beneficial application of water there. The Wheatland system for the irrigation of the Wheatland tract, consisting of 60,000 acres, had its inception in the year 1884, according to the plaintiff, and yet, in the year 1913 only fifty per cent of the land in that tract had been brought under irrigation; and yet this plaintiff under the doctrine of relation is contending for an appropriation as of date 1884, for the irrigation of 60,000 acres of land.

We have previously noticed the fact that although surveys for diversion ditches for the irrigation of the Bordeaux tract had started in February, 1904, nevertheless, in the year 1913, when the evidence was taken, only 1,004 acres, according to the plaintiff's witnesses, was under irrigation in that

tract. The surveys for the system designed for the irrigation of the Sybille tract of 30,000 acres, were commenced in August of 1907. This ditch is only 16 miles in length, and yet in the year 1913, it was not completed, and no lands whatsoever had been irrigated in the Sybille tract. Again the Lake Hattie and Lake James projects, initiated in the year 1908, and substantially completed when the testimony was taken, has been used for the reclamation of only a nominal amount of land. The Hutton Lake project, commenced in the year 1909, was not yet completed. Each one of these Wyoming projects is relatively simple of construction, readily accessible and of small cost compared with the Greeley-Poudre system. Under the laws of all states where the doctrine of appropriation obtains, beneficial use is the one chief requisite of an appropriation. It is recognized, however, that beneficial use cannot be made until the water is diverted from the stream. Such diversion works as are necessary must first be constructed. Therefore, under the doctrine of relation, when water has been beneficially applied and an appropriation thereby established, the date of that appropriation relates back to the inception of the work necessary to be done in order to make that beneficial application, provided due diligence has been exercised in the construction of such works. What is due diligence under every decision upon this point depends entirely upon the circumstances. It is a question of fact. The Greeley-Poudre system could not be built in a day, nor in a year. It is a stupendous undertaking, designed for the irrigation of an enormous tract of land—one hundred twenty-five thousand acres—with the place of application far remote from the

source of supply, involving engineering efforts which are almost startling in their daring. But we have shown a continuity of effort without interruption from the inception of this project, commencing with the date of the first survey, August 25, 1902, continued until forced to discontinue through the efforts of the very people who now claim lack of diligence on our part. But if there be such a lack of diligence as to destroy the right of the Greeley-Poudre system to its original date of appropriation, August 25, 1902, as contended for by the plaintiffs in their supplemental brief, what will be said of the Wheatland tract where an appropriation was made as of the year 1884, with subsequent enlargements, upon which a decree has been based adjudicating them water for the irrigation of 60,000 acres of land, when during a period of 29 years they had made beneficial application of this water upon only fifty per cent of the area for which this water was decreed. It is true, the Wheatland people made the diversion, but where is the beneficial application upon which that diversion must stand if it be entitled to its priority date? The same thought is likewise applicable to the other Wyoming projects we have just mentioned. Manifestly Wyoming is not in any position to complain of a lack of diligence in the construction of the Greeley-Poudre system.

VIII. CONCLUSION.

In concluding this brief may we suggest that we have endeavored herein to reply to the plaintiff's supplemental brief, rather than to present all of our defenses. In our original brief the salient features of the whole case were discussed and the evidence

reviewed. We sincerely trust that the order for re-argument does not mean that this original brief is out of the consideration of the Court. For many features of the case we must refer the Court to that discussion, and this present effort is not intended to supplant our first brief, but rather to supplement it. Since the original briefs were filed the Court has heard the oral arguments, made in December, 1916, and some of the facts, particularly the geography of the situation, are already before the Court. We trust that our review of the evidence herein and in our original brief will enable the Court to understand the questions of fact necessary for the consideration of this case.

Our general conclusions may be summarized as follows:

That the date of the commencement of the work complained of is August 25, 1902; that prior to that date, the only appropriations of water from the Laramie River in Colorado, were those made through many small ditches for irrigation of 4,250 acres of mountain meadow lands, adjacent to the streams, where the water, because of the character of the lands irrigated, returned with slight loss immediately to the stream, which diversions are so non-consumptive that no charge was made against the flow of the river on their account by the experts, as likewise obtained with regard to those diversions above Filmore in the area called the Centennial Valley on the Little Laramie River in Wyoming; that in addition to the use of water on these mountain meadow lands in Colorado, prior diversions had been made from the river by the Skyline and Divide ditches in Colorado in the aggregate average amount of 20,000 acre

feet per year, and that these three items, the mountain meadow irrigation, the Skyline ditch and the Divide or Wilson supply ditch, define the total benefits the State of Colorado had derived from the use of water from the Laramie River for irrigation prior to August 25, 1902;

That the total flow of the Laramie River at the Colorado-Wyoming line amounts to an average of from 250,000 to 320,000 acre feet per annum, this including the amount of 20,000 acre feet diverted by the Skyline and Divide ditches;

That the diversion through the Greeley-Poudre tunnel system here sought to be enjoined, will amount to an average of 56,000 acre feet per annum, according to the system as planned and in part constructed, with the probability of this being enlarged by the extension of the West Side Collection Ditch to divert an additional amount of 15,000 acre feet from McIntyre Creek, making a total of 71,000 acre feet per annum. If this cause should result in a decision favorable to defendants, Colorado will then be permitted to use the 20,000 acre feet now being diverted and a probable additional 71,000 acre feet through the Greeley-Poudre tunnel system, or a total of 91,000 acre feet per annum out of the minimum average flow of 250,000 acre feet per annum of the waters of that branch of the Laramie River rising and flowing within the State of Colorado. In other words, Colorado will be permitted to divert from the Laramie River but 91/250 of the water of that stream and its tributaries rising and flowing within her borders.

Passing now to Wyoming. The plaintiff in its supplemental brief contends that the total amount of

land under irrigation from the Laramie River in Wyoming is 152,097 acres, practically all of which was irrigated under projects begun prior to 1902. The defendants contend, and this is based upon a survey of practically all of these Wyoming lands, that the total amount under irrigation from the Laramie River in Wyoming is only 108,073.75 acres. We agree with Wyoming that the greater part of this was irrigated under systems initiated prior to August 25, 1902. As a matter of fact, the only lands which the plaintiff contends have been reclaimed since that date, excepting some small tracts under some unimportant ditches are as follows: Bordeaux tract, 1,004 acres; Lake James, 1,500 acres; Lake Hattie, 700 acres; Sodergreen, High Line Canal 4,000 to 5,000 acres; total, 7,204 to 8,204 acres, an inconsequential quantity, considering the whole. We are therefore justified in making the assumption that the greater part of the land under irrigation from the stream in Wyoming, is served by ditches initiated prior to August 25, 1902.

The Court has also asked that the extent of the use at the time that this suit was commenced be shown. There is no material difference in the amount of the use at that time compared with the amount of use on the earlier date, August 25, 1902.

We further contend that, including the Colorado water which we will place at the minimum average amount of 250,000 acre feet per annum, there are 431,200 acre feet of water in the Laramie River and its tributaries (including, of course, the amounts diverted above) available down to and including the Wheatland tracts, or if the flow from the North Laramie and the Chugwater be added, 470,000 acre

feet or more. If the higher estimate of flow at the state line be taken, that is 320,000 acre feet per annum, then the amount of the flow at the lower point of the river would be correspondingly increased. Taking for illustration the lower amount available for all lands down to and including the Wheatland tracts, 431,200 acre feet, Colorado seeks to divert by all her methods only 91,000 acre feet thereof, leaving 340,200 acre feet of water per annum available for the irrigation of Wyoming lands down to and including the Wheatland tracts, and more than that amount if Chugwater and North Laramie be added. It would appear that Wyoming will have an abundance of water for all of her legitimate needs, with a surplus available for future development, even after deducting the Colorado diversions. That in a year of normal flow, at least 15,000 acre feet of water above the legal amount which might have been diverted for irrigation under conditions demanding the greatest amount of water needed in that state, was diverted and applied to the lands in the Wheatland tracts, and yet, they had 40,000 acre feet remaining in the Wheatland No. 2 Reservoir at the close of the irrigation season. That water to unknown quantities has been wasted on the Laramie Plains by needless running of the same in canals during the winter months, by being impounded in reservoirs or waste basins from which there was no outlet and many other methods of unnecessary waste, thereby revealing water far in excess of all needs or demands (see Vol. I, pp. 299-307). That in the year 1912 four reservoirs alone, that is, Lake James, Wheatland Reservoir No. 1, Wheatland Reservoir No. 2, and Lake Hattie received 156,600 acre feet of water in storage, above the loss

by seepage and evaporation, which was not used or withdrawn, this representing surplus water which remained after use, loss and waste.

We have shown that the duty of water on the Laramie Plains, according to Wyoming's expert upon the subject, is one acre foot per acre, and on this basis, Wyoming has enough water in the Laramie River, considering the total to be 470,000 acre feet per year, to irrigate 379,000 acres of land after Colorado has diverted the amount which she seeks to divert, that is, 91,000 acre feet.

Wyoming contends that her supply is limited to an average of 200,000 acre feet on the Big Laramie and 110,000 acre feet on the Little Laramie, or a total of 310,000 acre feet. The measurements by which this conclusion was reached did not include the 20,000 acre feet diverted through the Skyline and Divide canals in Colorado. In other words, the estimate of 200,000 acre feet made by the Wyoming expert as the average amount at the state line, was the net amount of water at that point. Assuming for the sake of argument alone, that this is the total supply which Wyoming has, and there be deducted from it the 71,000 acre feet to be diverted by the Greeley-Poudre system, there would remain for use in Wyoming, 239,000 acre feet, or sufficient under the duty of water established by this same witness, for the irrigation of a corresponding number of acres of land. The plaintiff contends that she has 152,097 acres under irrigation. The surveys revealed but 108,073.75 acres. But even if their claim of acreage were correct, determined as it was by approximation, it appears from the plaintiff's own evidence that there is more water than is needed for the irrigation

of the lands now under irrigation and a surplus for future development.

The Court has also asked that the extent of appropriations made, or authorized in either or both states since the commencement of the suit, be given. In answer, we say that no appropriations have been made from the Colorado branch of the Laramie subsequent to the commencement of this suit, nor in fact, subsequent to the Greeley-Poudre enterprise (Aug. 25, 1902). The extent of the appropriations authorized in Wyoming since the commencement of the suit, is rather incomplete and the evidence was not taken with a view to this line of declaration. This suit was filed May 29, 1911. The evidence discloses that a number of filings have been made with the State Engineer of Wyoming for large projects since that date, upon which permits have been issued. So far as we are advised, none of these were constructed, nor even in the course of construction when the evidence was taken. These were shown in part by defendants' exhibits as follows: Permit No. 2719 Enl., filed July 11, 1912, for Pioneer High Line Canal enlargement of Lake Hattie supply canals taking water from the Big and Little Laramie Rivers and providing for use of water from the new Lake Hattie enterprise by a system of exchange with the river; Exhibit No. 160; and Permit No. 2720 Enl., filed July 11, 1912, for the Lake Hattie supply No. 2 enlargement, taking water from the Little Laramie River, Exhibit No. 167. However, there are doubtless others. Plaintiff offered no testimony concerning recent enterprises granted permits. So to have done would have been to admit that still unappropriated water remained in

the stream and thereby to deny their own contention of injury. The defendants limited their proof of recent permits and admission of abundant water supply by Wyoming, to those permits covering the new large enterprises which Wyoming witnesses, on cross-examination, admitted had been initiated long junior to the Colorado tunnel enterprise (3909-3933, 3958-62).

But there have been numerous projects initiated in Wyoming subsequent to the initiation of the work complained of, among them, those which we have previously discussed, that is, the Sybille and Bordeaux tracts, the Lake James system, the Lake Hattie system, the Lake Hutton system, the Sodergreen High Line and a great many others which need not be mentioned. All of these are based upon surveys commenced long subsequent to August 25, 1902, and have received permits from the State Engineer of the State of Wyoming authorizing construction (see defendants' Exhibits 159 to 178, inclusive, and pages 3893 to 3933, inclusive).

In Volume II, of our original brief, pages 198 to 231, inclusive, we discussed these recent and junior Wyoming appropriations in detail. On pages 214, 215, 218, 219, 220, 227 and 228 the permits are set forth in detail.

By the statutes of Wyoming the State Engineer is forbidden to issue permits authorizing diversions from streams where no unappropriated waters remain (3917-18, Revised Statutes of Wyoming, 1910, Secs. 727, 728 and 729), and Elwood Mead, the first State Engineer of Wyoming, and to whom is due the credit of the permit system obtaining in that State, in the first biennial report of the State Engineer, 1891-2, states: "An approved permit is a guarantee

from the State * * * that the engineer believes that there is an adequate water supply" (3918).

The foregoing permits authorizing the construction of these large junior Wyoming enterprises, having been issued by the State Engineer, are a declaration upon the part of the State that sufficient unappropriated waters remain in the stream to supply the new systems for which permits were granted, after supplying all senior appropriations.

It would seem that Wyoming is in no position to contend that the insignificant diversion to be made by the Greeley-Poudre tunnel system would materially affect senior appropriations in Wyoming in view of her declarations, by issuing permits, that ample water remains in the stream to satisfy the enormous new Wyoming projects many years junior to the tunnel project in Colorado.

Further discussion of the facts of the case already covered in our former brief and particularly in Vol. I, pp. 16-21 and Vol. II, pp. 131-255, would involve but continued repetition. Vol. I of this brief is devoted entirely to the law of the case as directed by the first paragraph of the order for re-argument. We shall not here add to the conclusions there stated.

We therefore conclude:

That more than 250,000 acre feet of water annually rise and flow in the Colorado branch of the Laramie River and that of this amount, the State of Colorado will be unable to divert more than 91,000 acre feet or to make use of more than 91/250 of the waters naturally rising and flowing within her borders; that an average of 470,000 acre feet of water annually rise and flow in the Laramie River in both

Colorado and Wyoming, and that Colorado will be unable to use more than 91/470 of the flow of the stream.

That 108,073.75 acres of land are irrigated from the Laramie River and tributaries in Wyoming, and that after Colorado shall have diverted 91,000 acre feet of water from that branch of the stream which rises and flows within her borders, there will ever remain in the stream sufficient water to supply the acreage now under irrigation in Wyoming and ample for all present and future diversions within her borders;

That the tunnel enterprise in Colorado was initiated August 25, 1902, and that long subsequent to said date many large, new and junior enterprises were first initiated and granted permits by the State of Wyoming, thereby admitting that ample water still remained in the Laramie River and its tributaries to supply said new and junior enterprises after satisfying all senior appropriations; and that the Colorado enterprise is senior and superior to said subsequent enterprises in Wyoming and senior and superior as against any additional or enlarged claims upon the stream for reclamation of additional acreage by means of Wyoming appropriations prior to August 25, 1902;

That while in Vol. I of this brief, pp. 215 to 319, inclusive, we observed that the general principles of prior appropriation are *intrastate* in their application and do not apply irrespective of state lines, nevertheless, if the doctrine were sought to be here applied, plaintiff has failed to offer sufficient proof for adjudication of water rights from this interstate stream or upon which this Court could determine the relative priorities of the several diversions in the two States and settle the same by decree;

That the diversions by Colorado and her citizens and the exercise by Colorado of her sovereign rights in the necessary use of her natural resources ~~and~~ a part of the waters of that portion of the stream which rises and flows within her borders will not injure the State of Wyoming or her citizens or interfere with Wyoming in the exercise of her sovereign rights:

That the State of Wyoming has wholly failed to prove the allegations of her bill or that diversion by the Colorado enterprise complained of will in any manner injure Wyoming or her citizens, and that the action should be dismissed.

Respectfully submitted,

PLATT ROGERS,
FRED FARRAR,
Of Counsel.

LESLIE E. HUBBARD,
*Attorney General of the State
of Colorado;*

DELPH E. CARPENTER,
*Attorney for The Greeley-Poudre
Irrigation District;*

JULIUS C. GUNTER,
*Attorney for The Laramie-Poudre
Reservoirs & Irrigation Co.*